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NAS FORT WORTH
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PRESENTATION FOR RESTORATION ADVISORY BOARD UPDATE FROM 2 NOVEMBER
2000 WITH ATTACHMENTS NAS FORT WORTH TX
11/2/2000
RESTORATION ADVISORY BOARD



CARSWELL AFB TEXAS

ADMINISTRATIVE RECORD COVER SHEET

AR File Number 783

NAS Fort Worth JRB Installation Restoration Program Update

Michael R. Dodyk, P.E.

November 2, 2000

RAB



Installation Restoration Program History

- ◆ Carswell AFB officially closed September 30, 1993
 - A large part of the former Carswell AFB was transferred to the Navy and renamed the NAS Fort Worth JRB.
 - Prior to complete property transfer, required environmental investigations of potentially contaminated sites related to Air Force activities prior to October 1, 1993 are to be completed; and contaminated sites remediated.
 - The Air Force assigned AFCEE both management and implementation responsibility for completing the IRP on NAS Fort Worth JRB property.



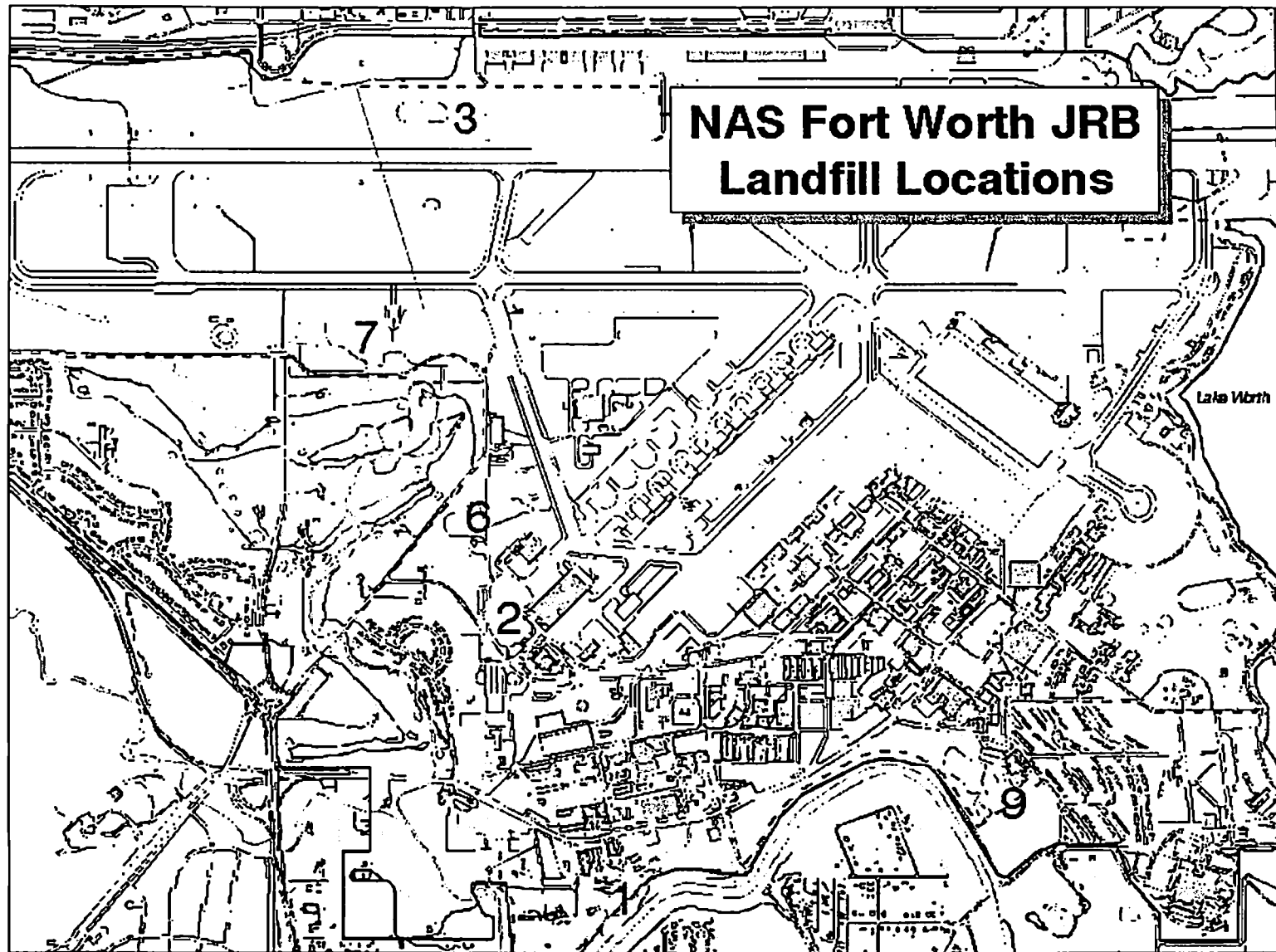
Regulatory and Site Overview

- ◆ Former Carswell AFB issued a RCRA Permit on February 7, 1991 (HW-50289)
 - This permit requires a RCRA Facility Investigation (RFI) of all Solid Waste Management Units (SWMUs).
 - AFCEE is investigating a total of 43 SWMUs and 13 AOCs at NAS Fort Worth JRB (4 of these 56 sites have been officially closed by the TNRCC). All other sites are at varying stages of investigation or corrective action.
 - Remaining SWMUs and AOCs include 6 landfills, 16 Waste Accumulation Areas, 3 fire training areas, 15 Oil/Water Separators, 3 fueling stations, a POL tank farm, and various other locations.



Investigation Update - Landfills

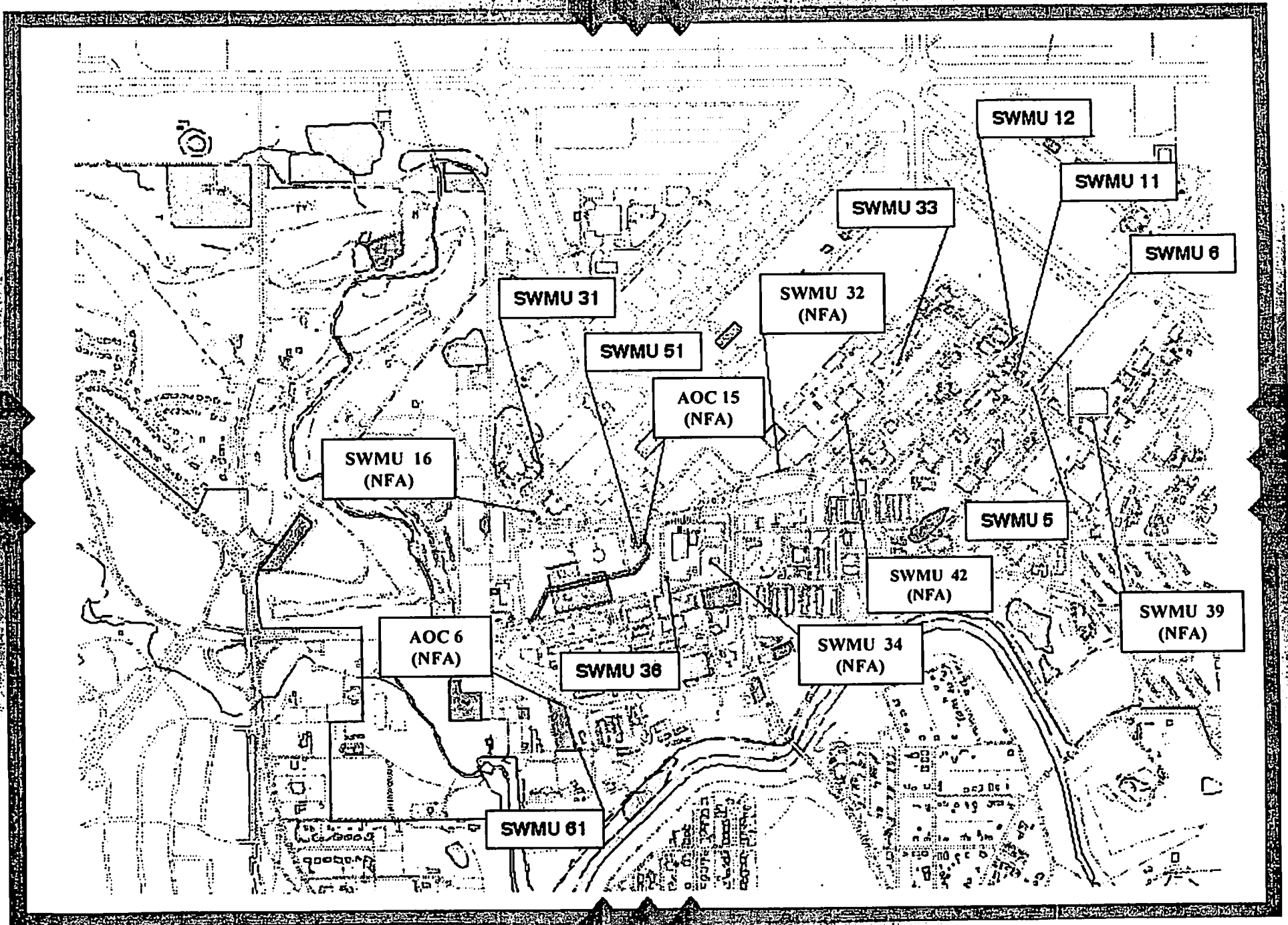
- ◆ Phase III field work completed in June 2000 at Landfills 1, 2, 3, 6, 7, and 9.
 - Limited additional field work planned for December 2000.
- ◆ Landfill RFI Reports planned for submittal to AFCEE next year, pending successful completion of delineation activities.



Investigation Update

Waste Accumulation Areas (WAAs)

- ◆ An RFI Report recommending no further action for 7 WAAs was submitted to TNRCC in July 2000.
- ◆ Phase II soil and initial groundwater sampling for 9 WAAs completed in June 2000. Second round of groundwater sampling completed last month.
 - Based on these sampling results, 4 WAA sites to be submitted for closure; the 5 remaining sites require additional field work to be conducted next year.

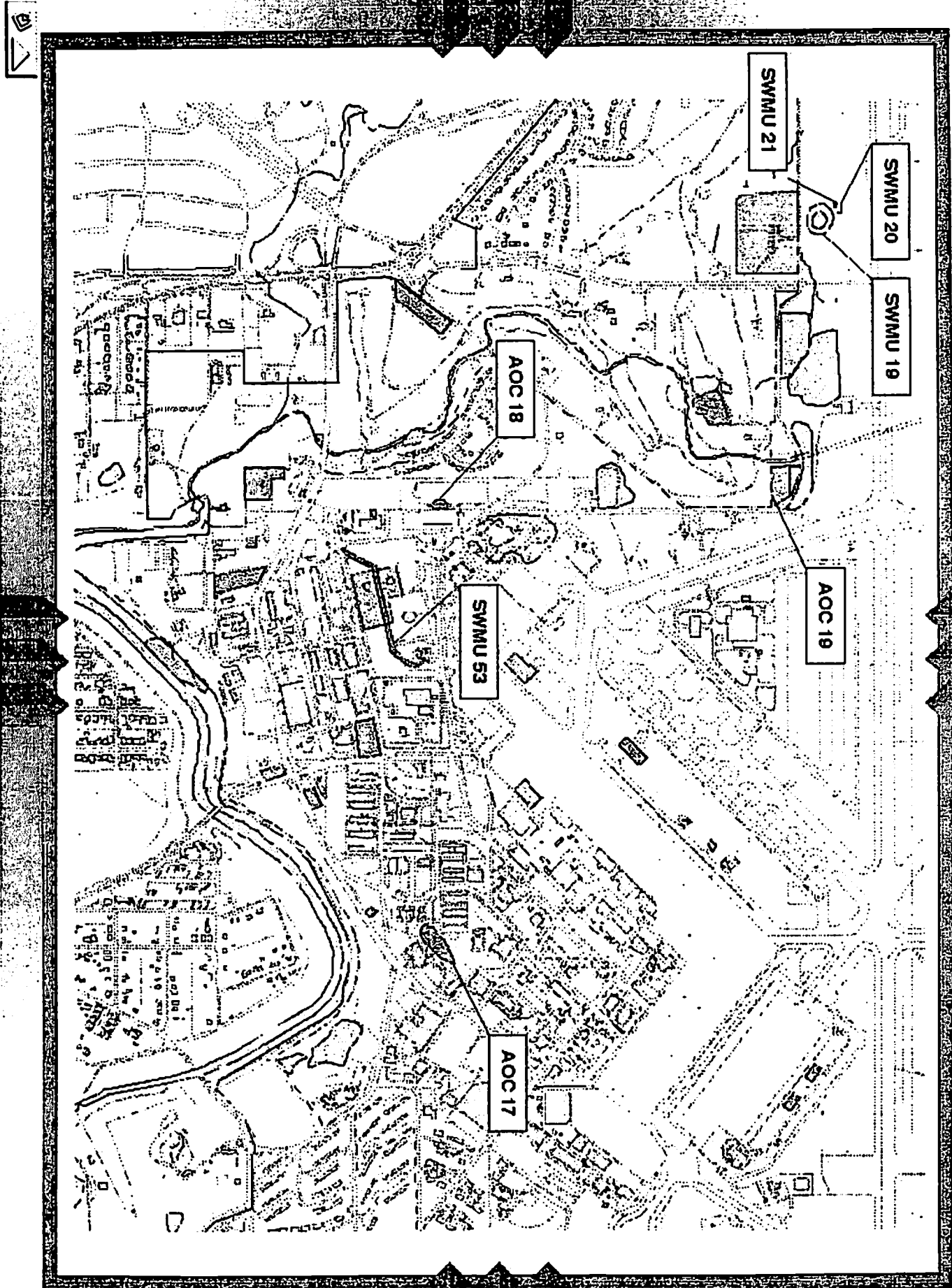


SWMUs 19, 20, 21, and 53; and AOC 19

- ◆ Initial field investigations were completed in June at these sites:
 - SWMUs 19, 20, and 21--Former Fire Training Area 2
 - SWMU 53--Storm water drainage system
 - AOC 19--Suspected former fire training area
- ◆ Field Investigation results indicate additional sampling is necessary at each of these sites.
This sampling is scheduled to begin this month.

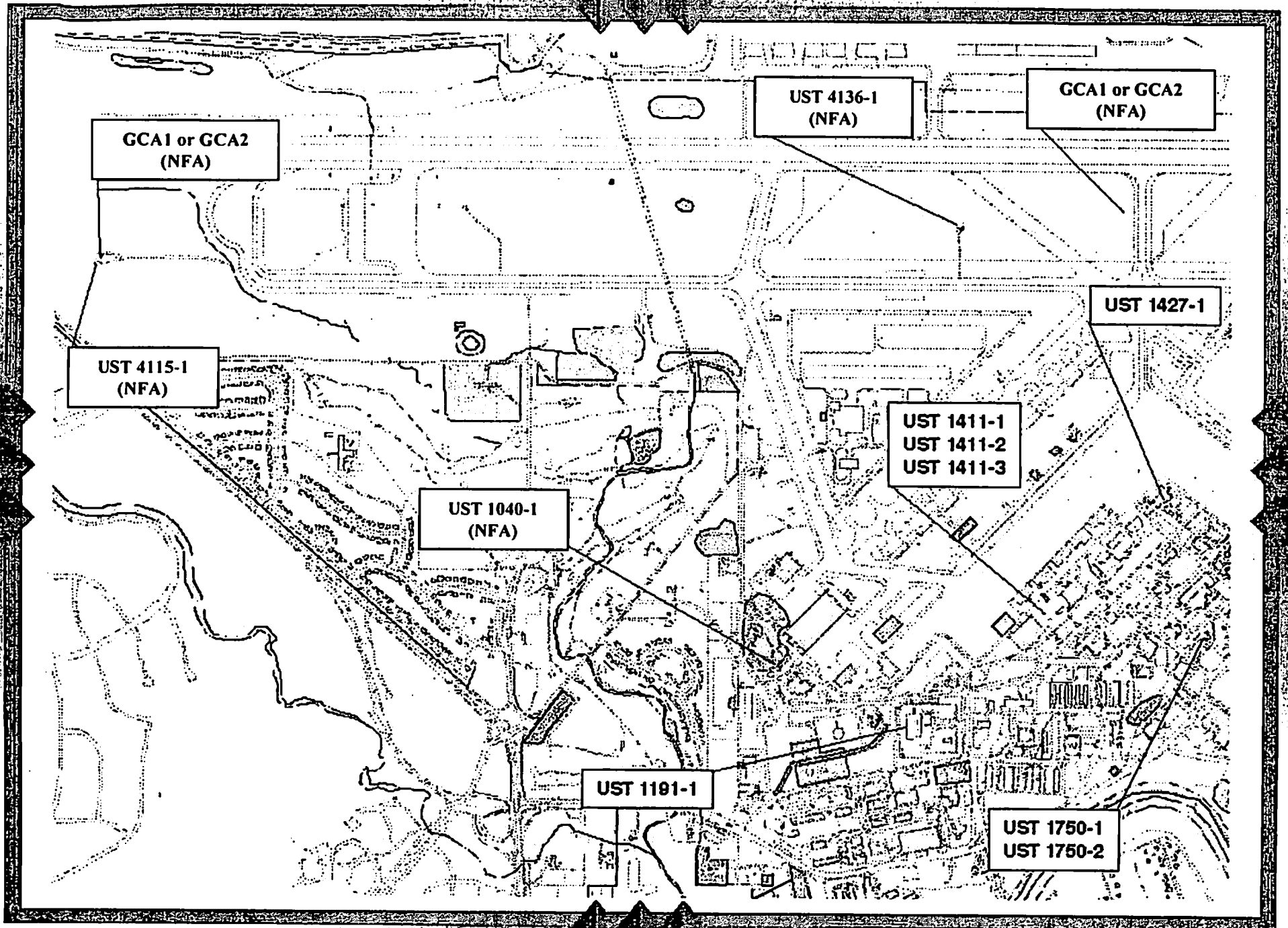
AOCs 17 and 18

- ◆ Initial field investigations were completed in June at these sites:
 - AOC 17--Suspected former landfill
 - AOC 18 --Suspected former fire training area
- ◆ Field work activities included a geophysical survey and soil sampling.
- ◆ Field investigation results indicate that a release from these units has not occurred. RFI Report recommending closure will be submitted to TNRCC this month.



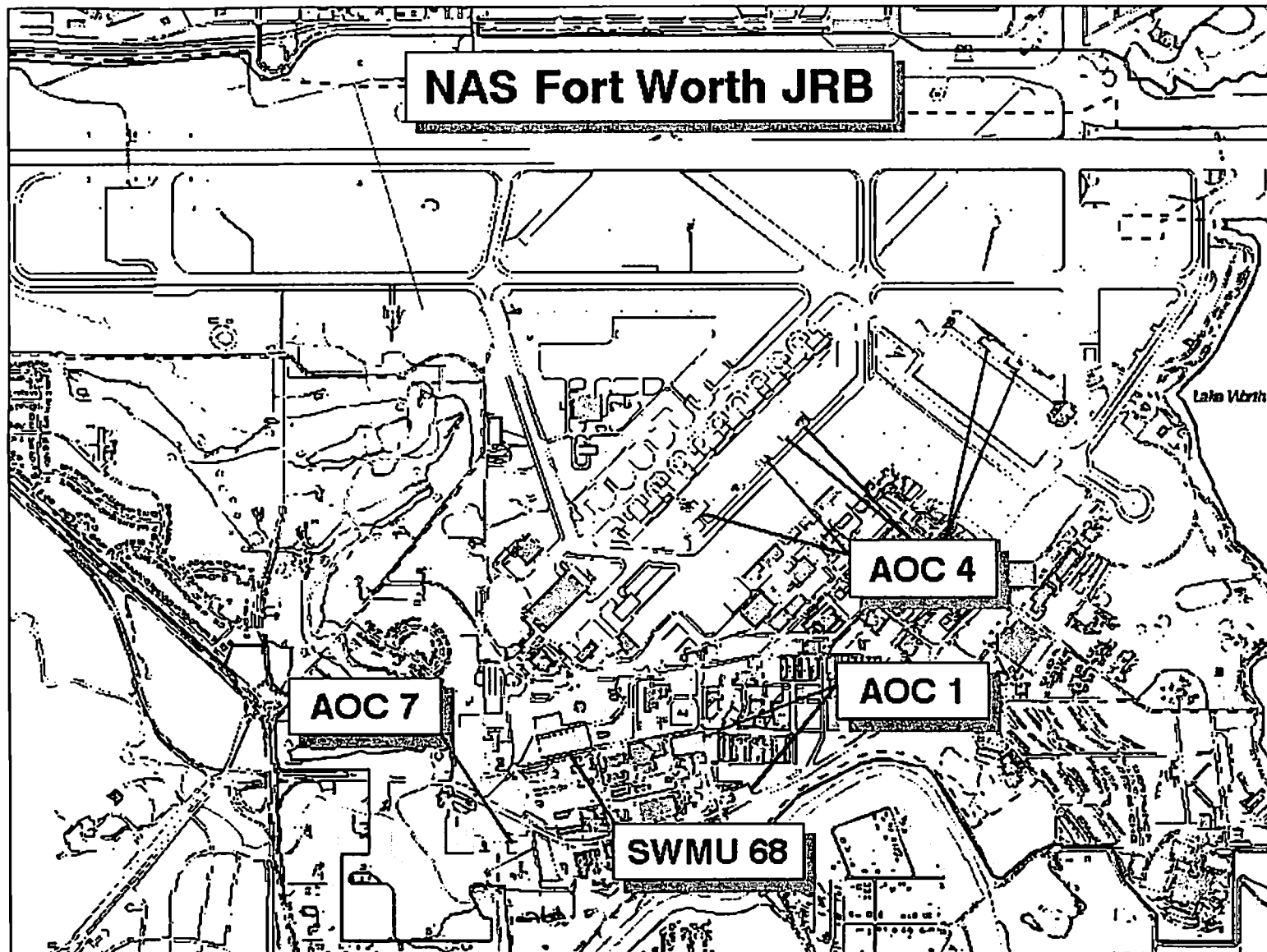
Underground Storage Tank (UST) Investigation

- ◆ Final Investigation Summaries for 5 USTs submitted to TNRCC for closure in March 2000.
- ◆ A Final Release Determination Report for the UST at Building 1427 was submitted to the TNRCC in July 2000. A Plan A Site Assessment was proposed as the next appropriate action.
- ◆ Additional soil and /or groundwater sampling was completed at 6 USTs in May 2000. A No Further Action Request for these sites will be submitted to the TNRCC by December 2000.



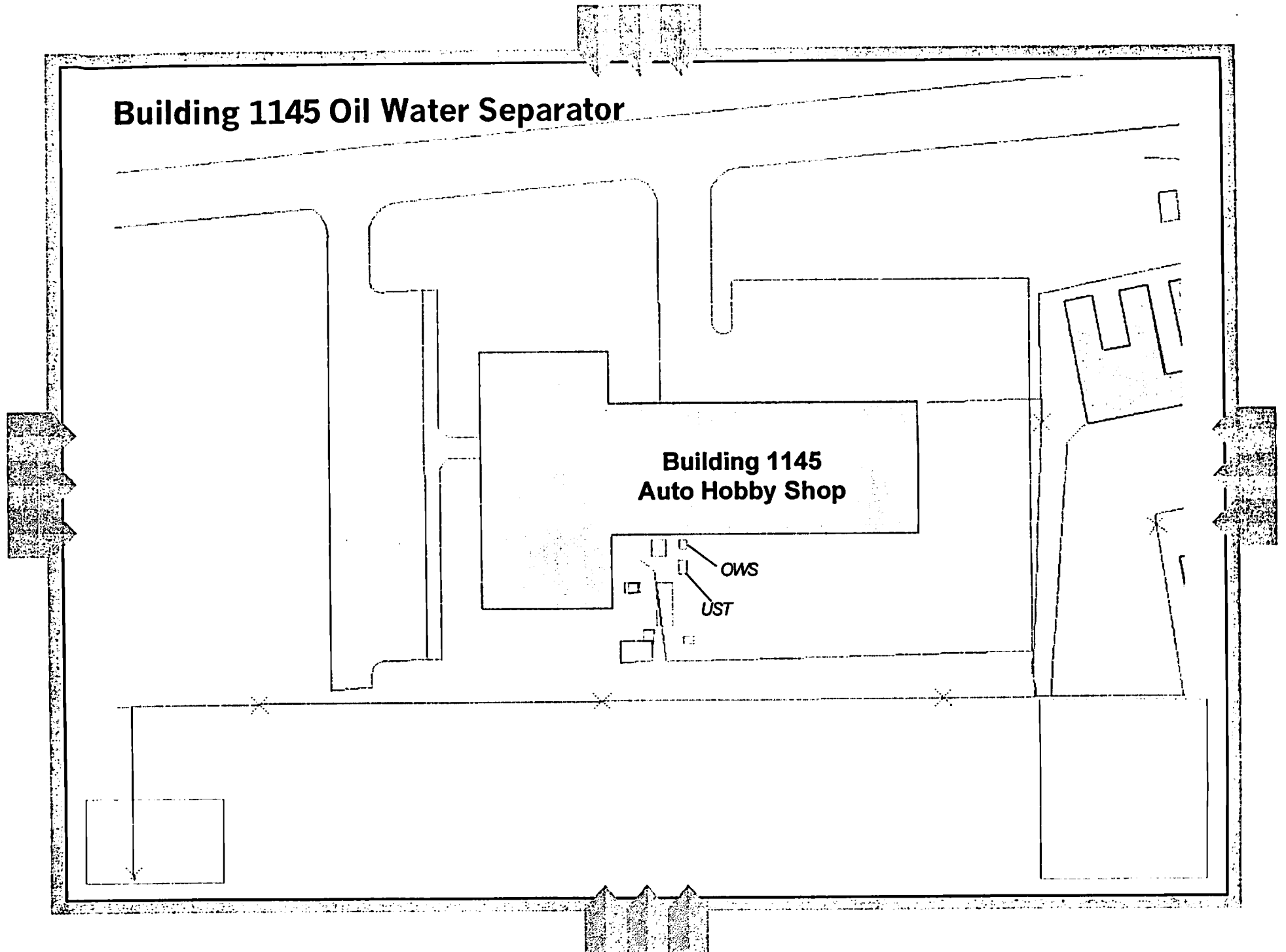
UST Investigation (cont.)

- ◆ AOC 1, Former Base Service/Gas Station
 - Semi-annual groundwater sampling of the newly installed off-base wells and existing wells continued last month.
- ◆ SWMU 68, POL Tank Farm, and AOC 7, Former Base Refueling Area
 - A Final Site Assessment Report for SWMU 68 and AOC 7 was submitted to the TNRCC in August 2000.
 - Semi-annual groundwater sampling continued last month. Weekly product recovery continues as necessary.
- ◆ AOC 4, Former Fuel Hydrant System
 - Semi-annual groundwater sampling continued last month. Weekly product removal continues as necessary



Corrective Measures at AOC 13 (Building 1145 Oil/Water Separator)

- ◆ Removal and replacement of the leaking Oil Water Separator was completed in June 2000.
 - Contaminated soils were overexcavated and confirmation samples were collected on excavation sidewalls.
 - Analytical results were evaluated to determine additional sampling requirements.
 - Next sampling round scheduled for next month.



Basewide Oil/Water Separators

- ◆ IT Corporation completed the second phase of field investigations at 11 Oil/Water Separators located throughout the base.
 - Included soil and groundwater sampling.
- ◆ Based on the results of Phase II, approximately 5 Oil/Water Separators will be submitted for closure. The remaining sites will undergo a Phase III Investigation this month.



Groundwater Sampling and Analysis Program (GSAP)

- ◆ Draft July 2000 Quarterly Report submitted to AFCEE last month.
 - The report presents plume characteristics and trends from data collected during the July 2000 groundwater sampling event.
- ◆ Quarterly groundwater sampling conducted last month: 33 wells sampled.
- ◆ Monitoring Well Abandonment/Repair Report submitted to AFCEE last month for 19 monitoring wells abandoned and repaired in June and July.

Paleochannel Site Inspection

- ◆ SAIC has just completed Phase I of the site inspection to delineate gravel channels in the Walnut/Goodland bedrock confining layer using geophysical survey techniques.
 - Included use of seismic reflection and electronic imaging.
- ◆ Based on the results of Phase I, the second phase will install six borings, five to be completed as monitoring wells, to confirm channeling characteristics and preferential groundwater movement.





PROGRAM STATUS

- CLOSURE REPORTS
 - AEROSPACE MUSEUM
 - GROUNDS MAINTENANCE YARD
- WEAPONS STORAGE AREA
- SANITARY SEWER INVESTIGATIONS
- LANDFILL INVESTIGATIONS
 - LANDFILLS 4, 5, AND 8
 - WASTE PILE 7

Nov 2003
KMB



PROGRAM STATUS CLOSURE REPORTS

- AEROSPACE MUSEUM
 - METES AND BOUNDS COMPLETED IN SEPTEMBER 2000
 - CLOSURE REPORT SUBMITTED TO REGULATORS IN OCTOBER 2000

- GROUNDS MAINTENANCE YARD
 - SAMPLING BEGAN IN OCTOBER 2000
 - CLOSURE REPORT WILL BE REVISED AND SUBMITTED BY DECEMBER 2000



PROGRAM STATUS WEAPONS STORAGE AREA

- **ADDITIONAL FIELD WORK TO FINISH SOIL EXCAVATION COMPLETED IN NOVEMBER 1999**
- **CLOSURE REPORT SUBMITTED TO REGULATORS IN AUGUST 2000**



PROGRAM STATUS

SANITARY SEWER INVESTIGATIONS

- **PHASE II INVESTIGATIONS**
 - **SAMPLING COMPLETED**
- **VIDEO SURVEY OF SEWER LINES BY NAVY
IDENTIFIED ADDITIONAL CONCERNS (LINE
BREAKS)**
- **PHASE III INVESTIGATIONS**
 - **INVESTIGATIONS ONGOING**
 - **CLOSURE REPORT WILL BE SUBMITTED BY DECEMBER
2000**



PROGRAM STATUS LANDFILL INVESTIGATIONS

- **FIELD INVESTIGATIONS COMPLETED**
- **DRAFT RCRA FACILITY INVESTIGATION (RFI)
AND CLOSURE REPORT SUBMITTED TO
REGULATORS IN SEPTEMBER 2000**
- **CORRECTIVE MEASURE IMPLEMENTATION (CMI)
DESIGN FOR SOILS ONLY COMPLETED IN
JULY 2000**
- **CONSTRUCTION OF CMI COMPLETED IN
SEPTEMBER 2000**



PROGRAM STATUS LANDFILL INVESTIGATIONS

- **LANDFILL 4**
 - REMOVED CONTAMINATED SOIL
 - COMPLETED CONSTRUCTION OF SOIL CAP DUE TO MEDICAL WASTE
- **LANDFILL 5**
 - REMOVED CONTAMINATED SOIL
 - COMPLETED CONSTRUCTION OF SOIL CAP DUE TO MEDICAL WASTE
- **LANDFILL 8**
 - REMOVED CONTAMINATED SOIL



PROGRAM STATUS

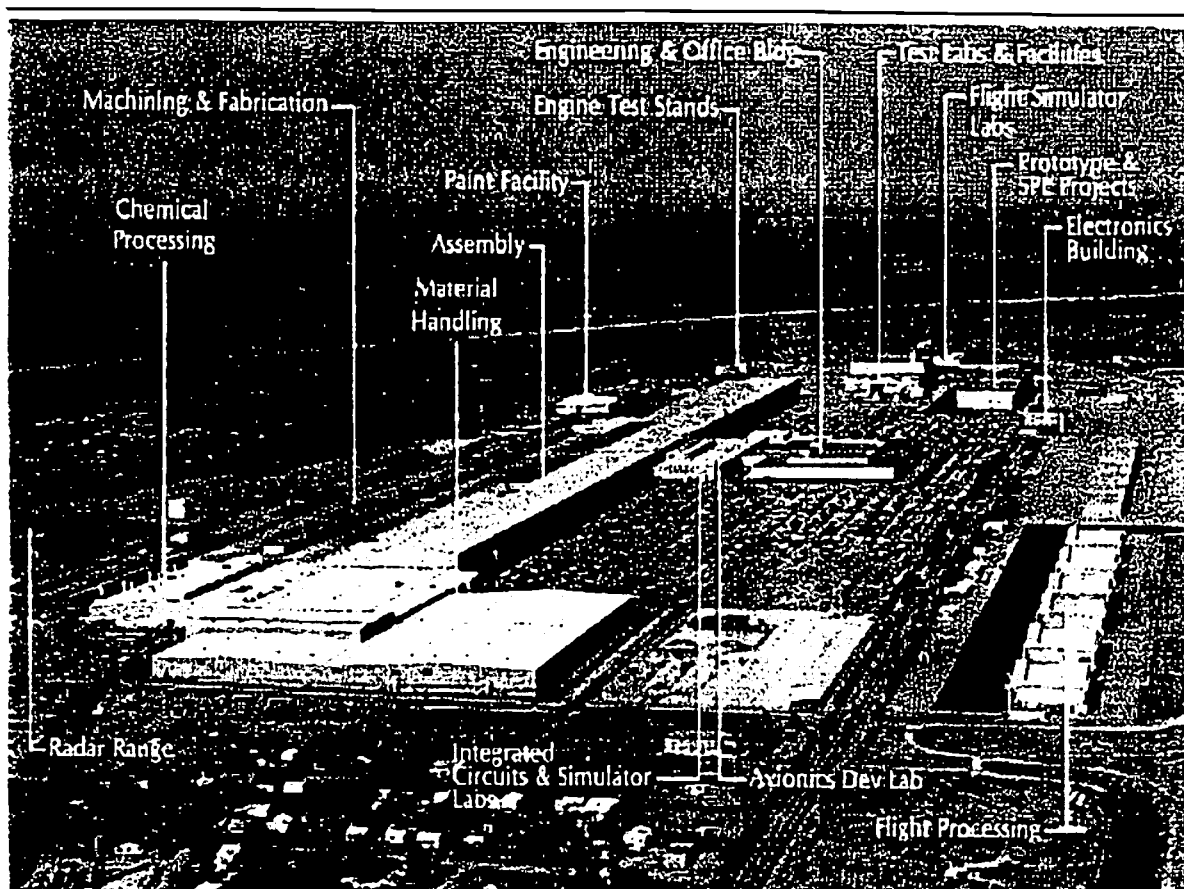
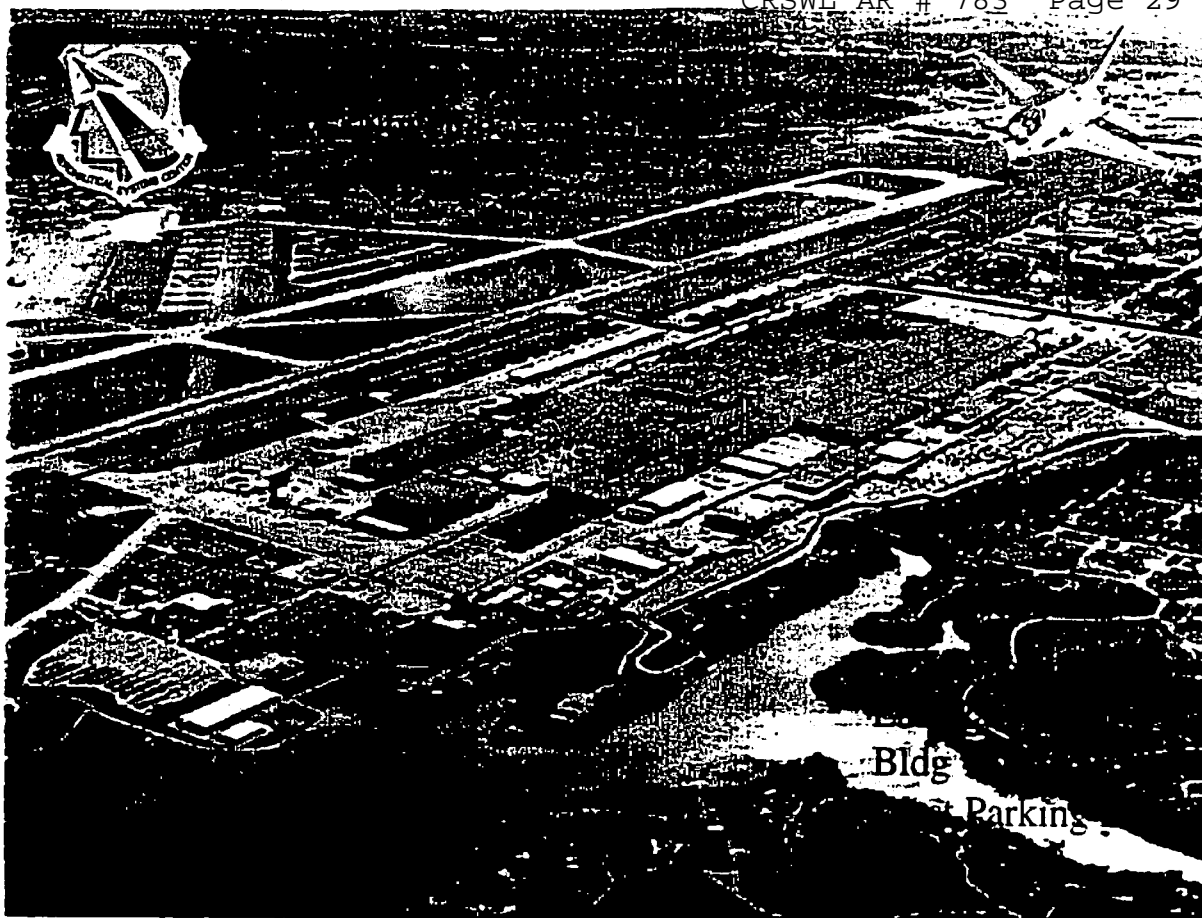
LANDFILL INVESTIGATIONS

- **WASTE PILE 7**
 - COMPLETED REMOVAL OF DRUMS AND CONTAMINATED SOIL IN SEPTEMBER 2000
 - BACKFILLED EXCAVATION IN SEPTEMBER 2000
 - NON-HAZARDOUS CONTAMINATED SOIL WAS DISPOSED AT WESTSIDE LANDFILL IN FORT WORTH
 - HAZARDOUS SOIL AND DRUMS WERE DISPOSED AT CHEM-WASTE MANAGEMENT IN SULPHUR, LOUISIANA



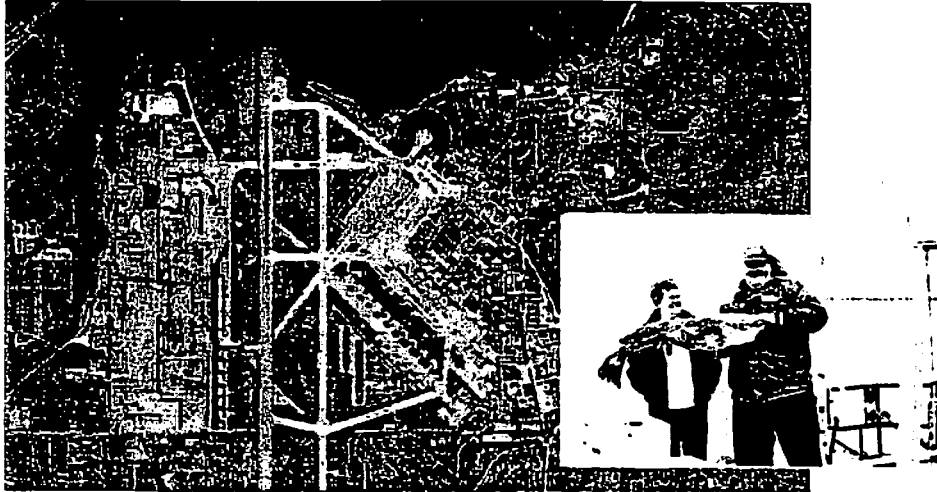
PROPERTY TRANSFER UPDATE

- FEDERAL BUREAU OF PRISON HOSPITAL
 - COMPLETED IN AUGUST 2000
- KINGS BRANCH HOUSING AREA
 - COMPLETED IN OCTOBER 2000
- HORSE STABLES AREA IN JANUARY 2001
- WEAPONS STORAGE AREA IN APRIL 2001



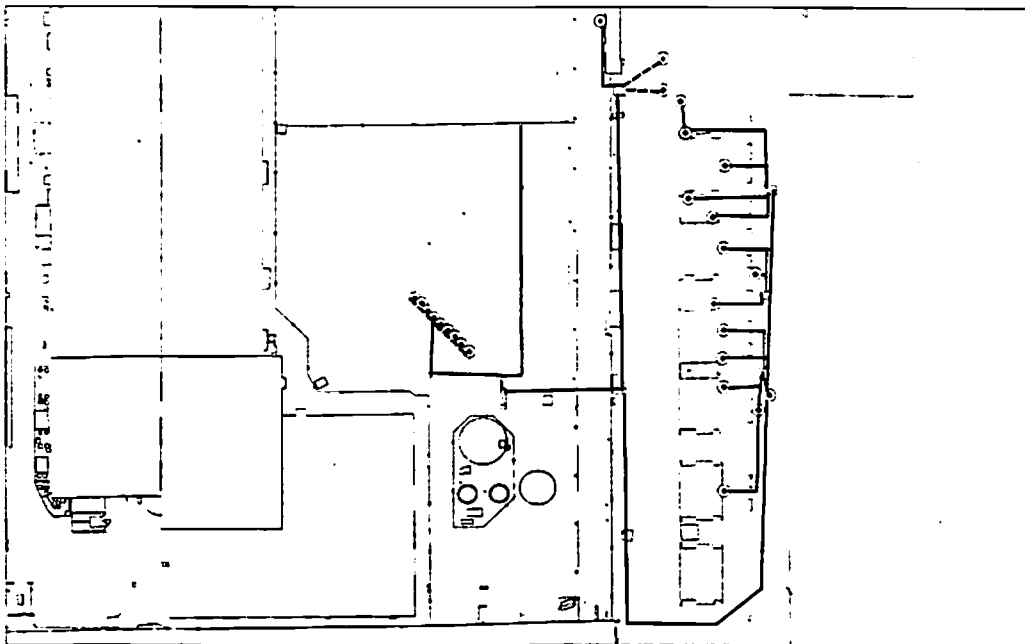
Lake Worth Sediment Sampling

- USGS Peter Van Metre- Austin TX
- \$200K Sampling now, results in 6 months.
- Follow-up to Fish Tissue Sampling
- Will focus on PCB's in sediment and whether additional contamination is continuing to migrate into the lake (based on depth of PCBs)

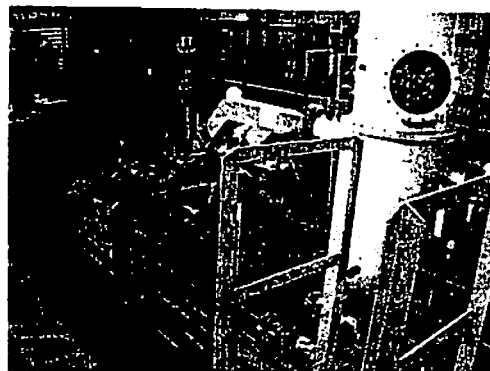
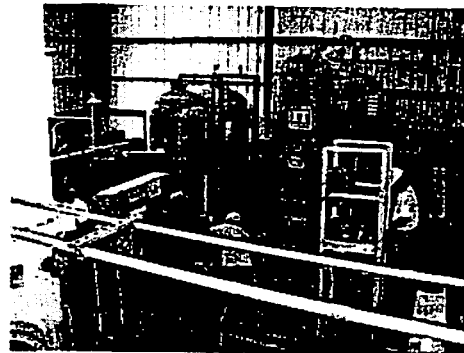
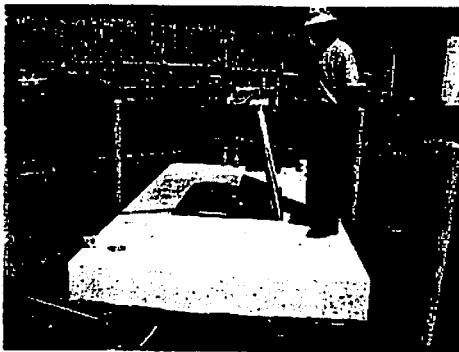
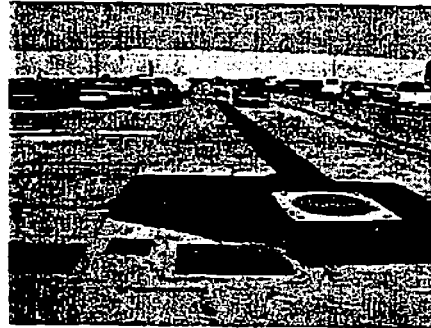
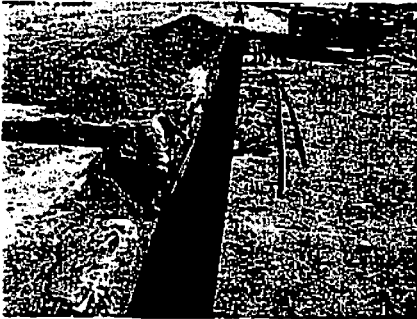
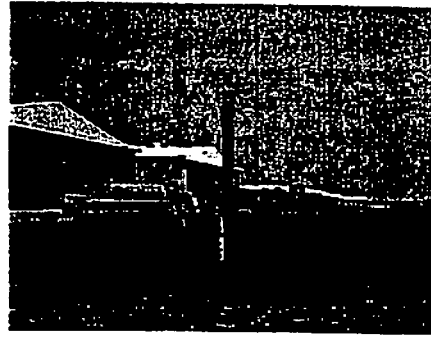
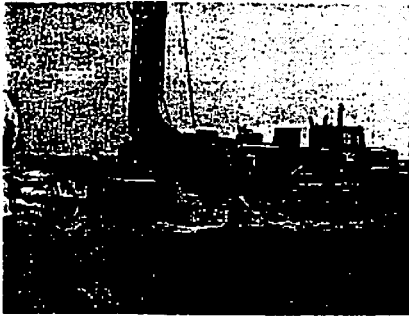


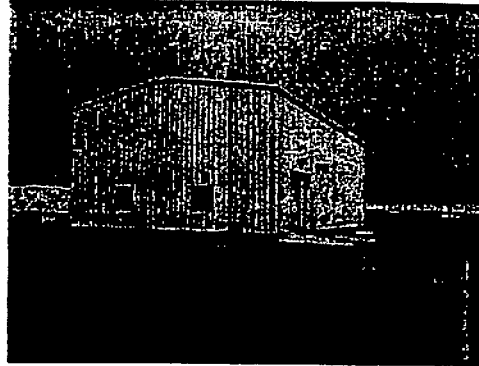
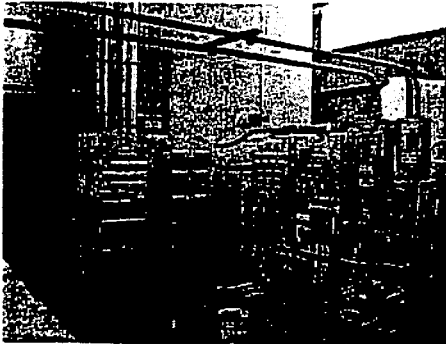
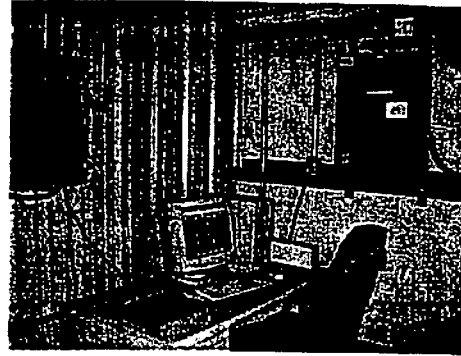
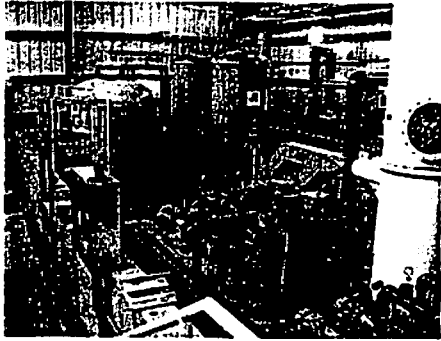
East Parking Lot Remedial Action

Operational Dec 2000

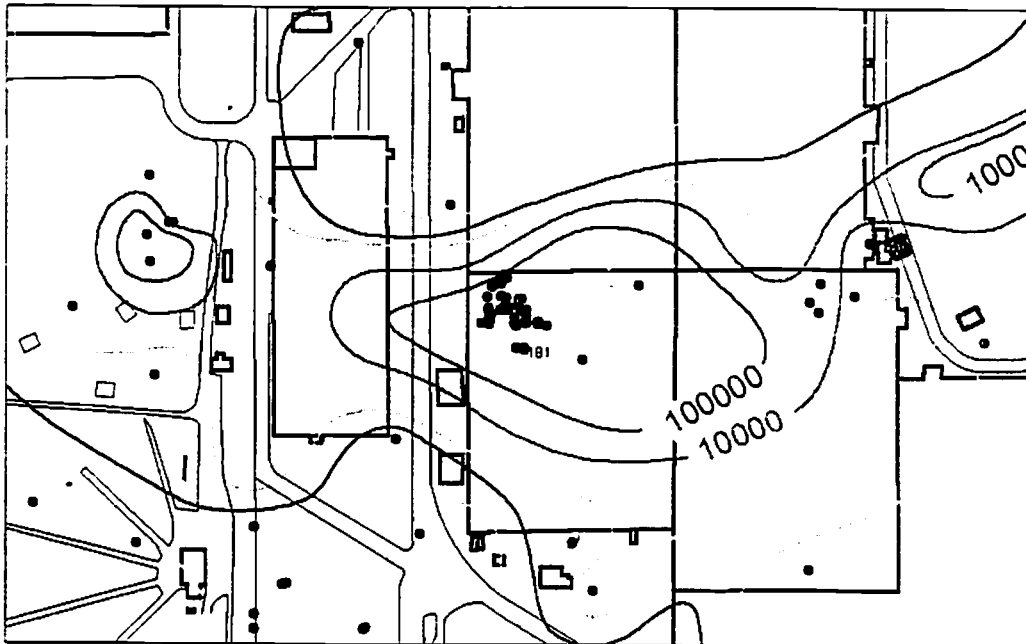


East Parking Lot Groundwater Treatment Sys.

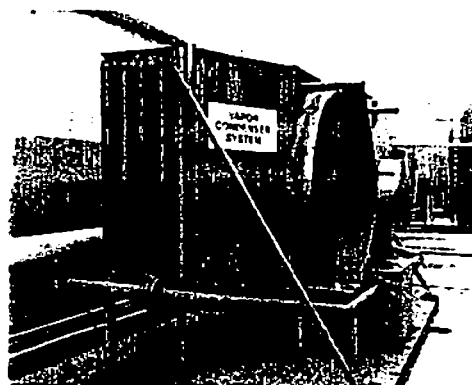
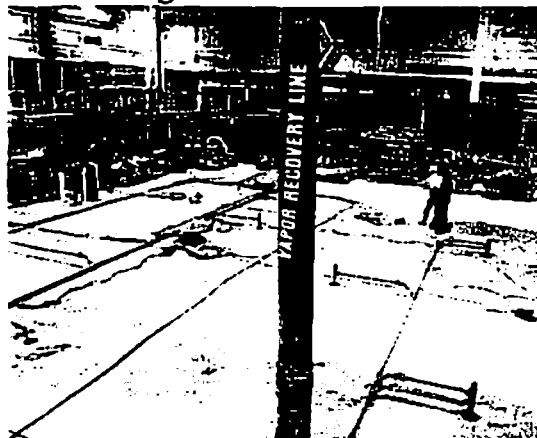




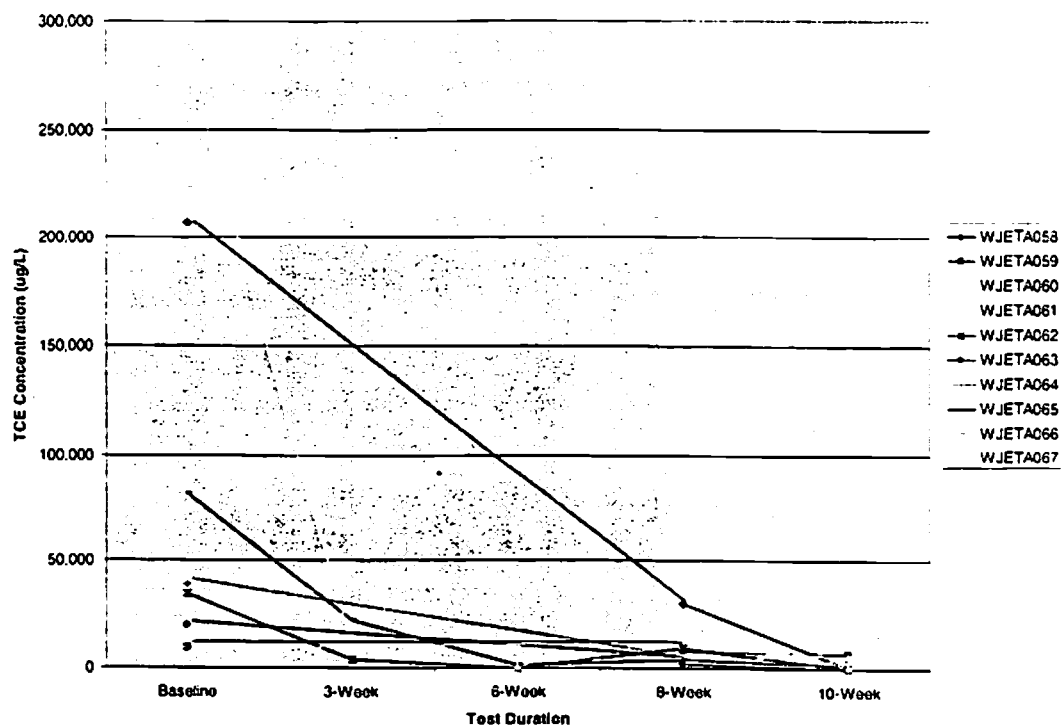
Building 181 Soil Vapor Extraction and SPH



Bldg 181 - Six Phase Heating Pilot study

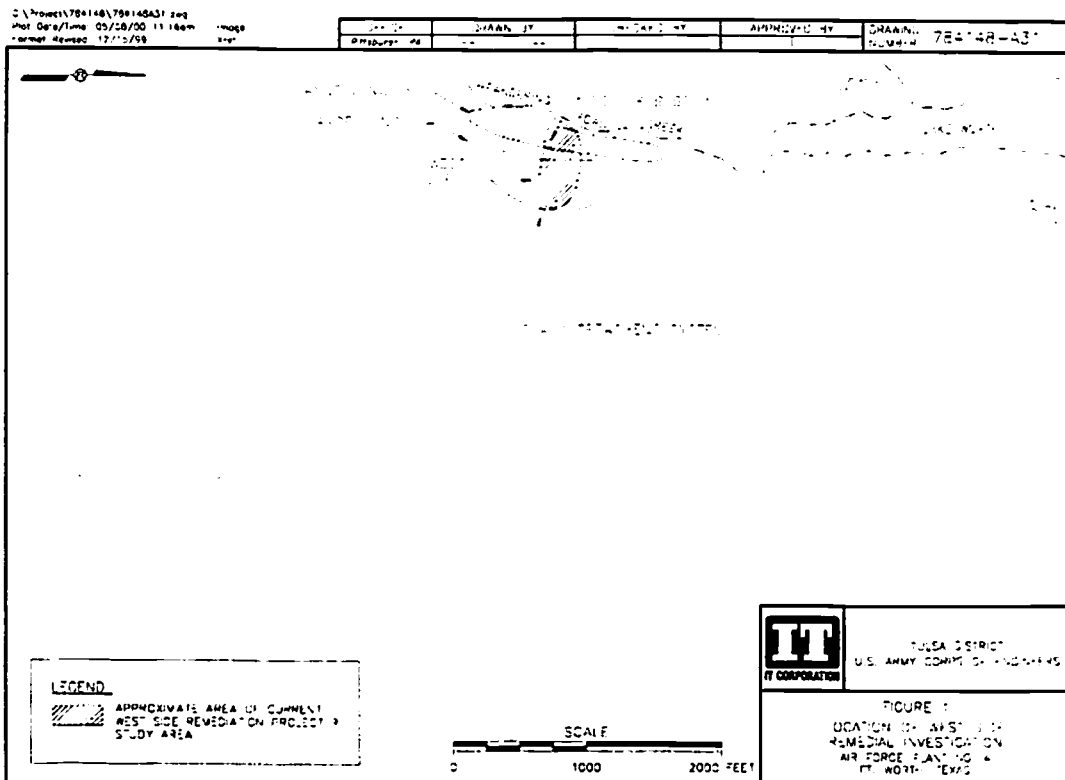


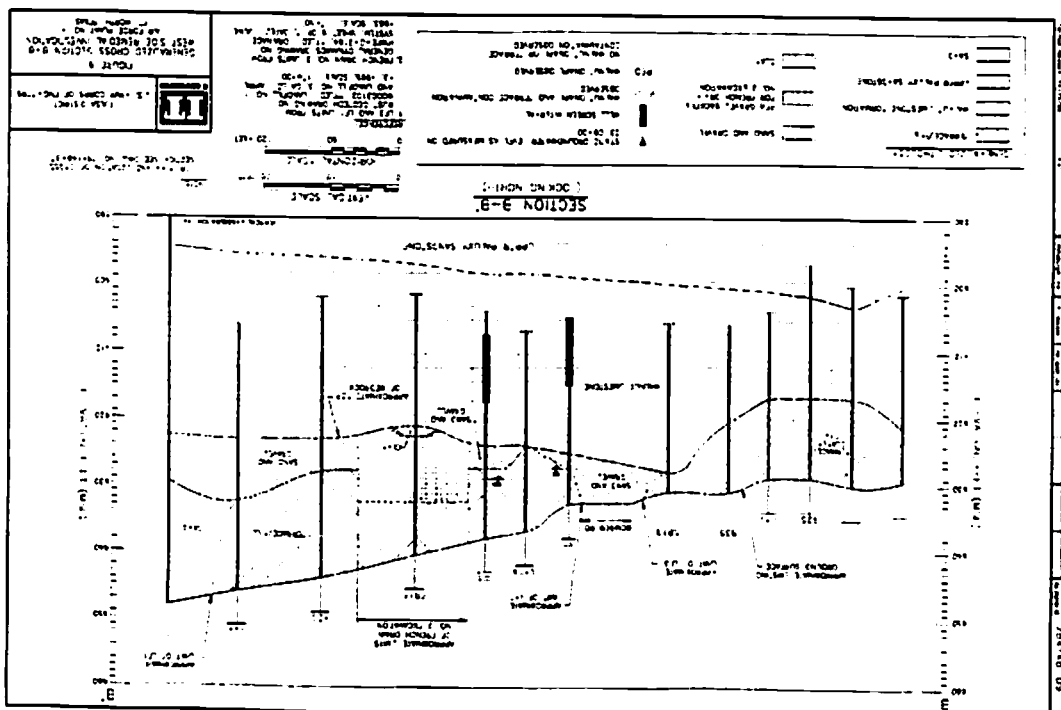
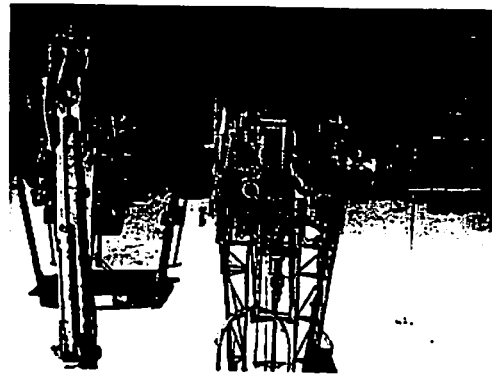
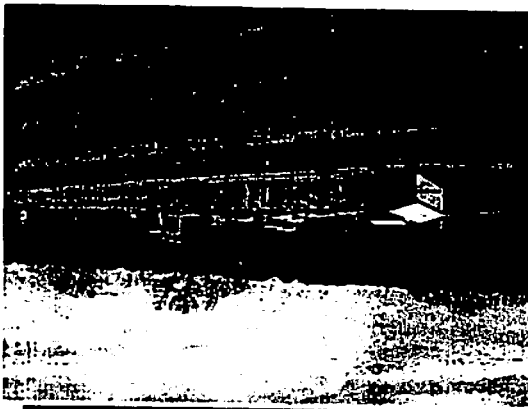
AFP4 SPH Groundwater Concentrations



AFP4 Groundwater Sampling Results

Well ID	TCE Concentration (ug/L)					% Reduction
	Baseline	3-Week	6-Week	8-Week	10-Week	
WJETA058	206.900			30.000	298	100
WJETA059	9.170			8.030	6.780	26
WJETA060	5.960			9.490	5.880	1
WJETA061	41.500			10.600	4.890	88
WJETA062	34.300	3.750	166	9.360	206	99
WJETA063	19.700			1.740	10	100
WJETA064	38.900			677	424	99
WJETA065	81.800	21.900	1,400	3.800	1,480	98
WJETA066	9.130			6.190	3,217	65
WJETA067	285.000	9.270	296	24.855	553	100





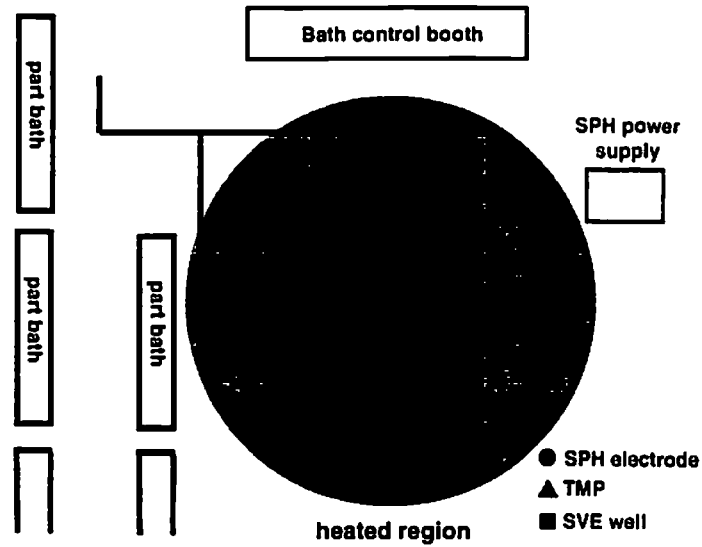
URS

CES

CURRENT
ENVIRONMENTAL
SOLUTIONS

Radian

Air Force Plant Four Fort Worth



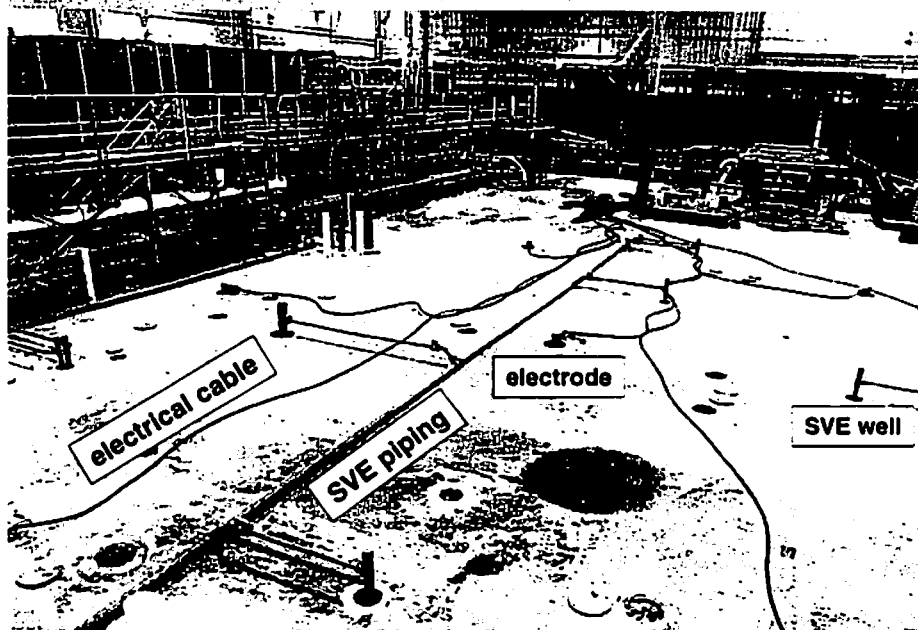
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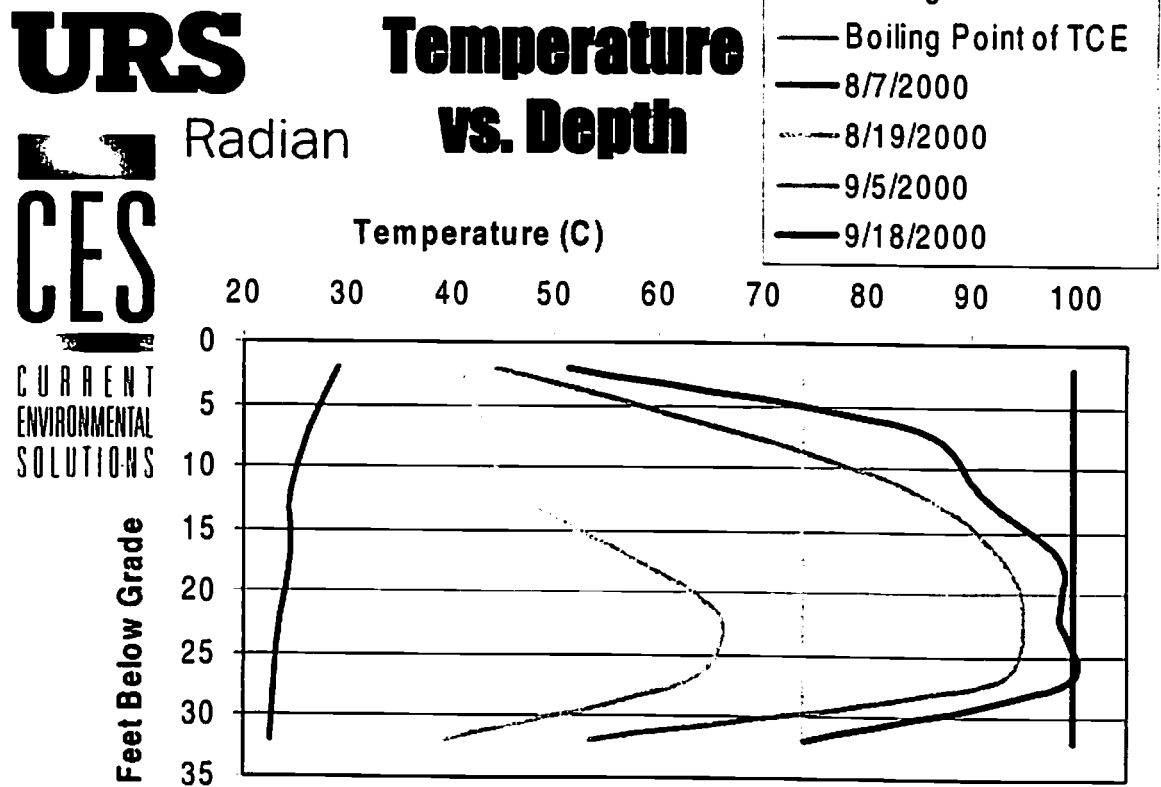
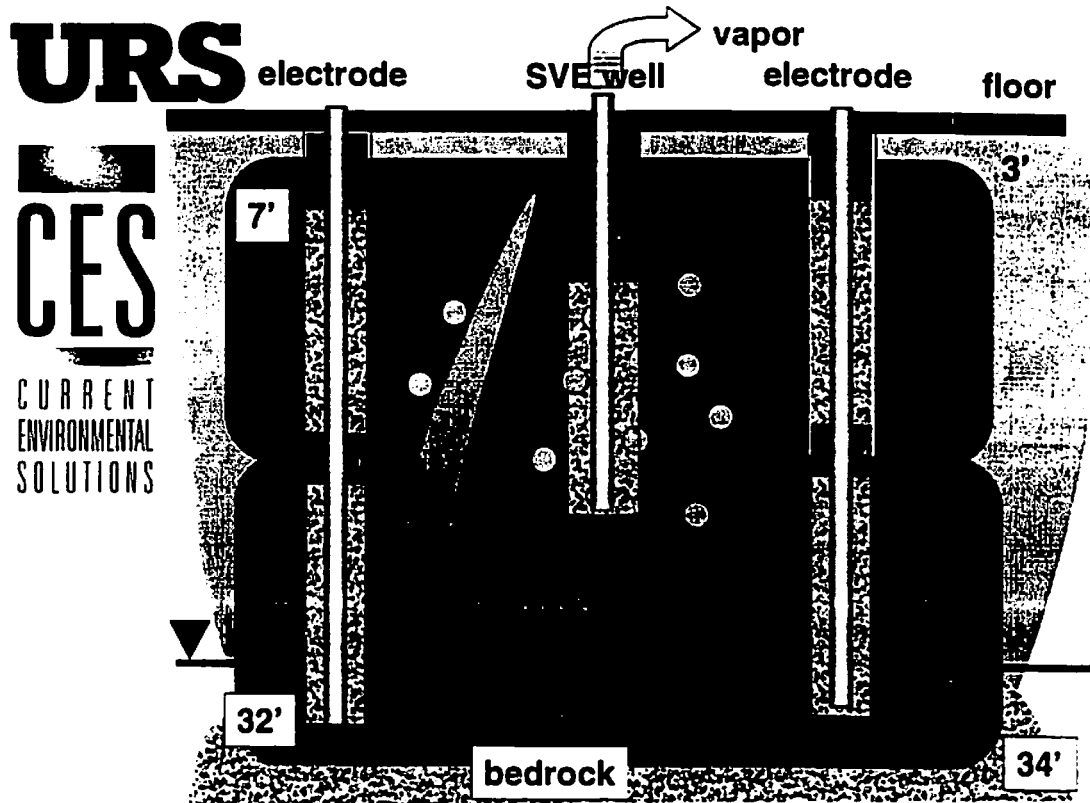
CES

CURRENT
ENVIRONMENTAL
SOLUTIONS

Radian

SPH Remediation Beneath Air Force Plant Four

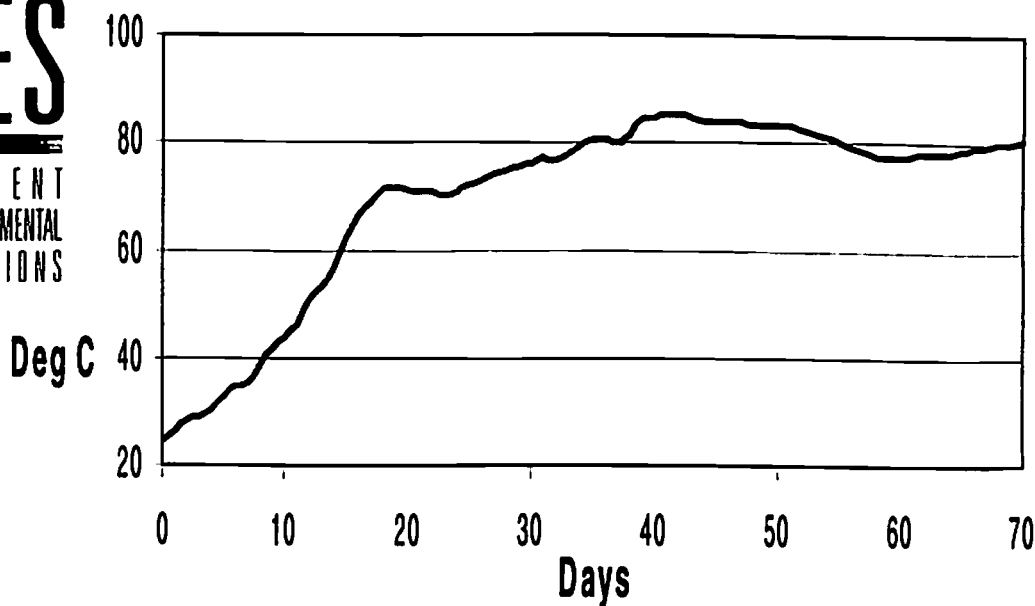




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ENVIRONMENTAL
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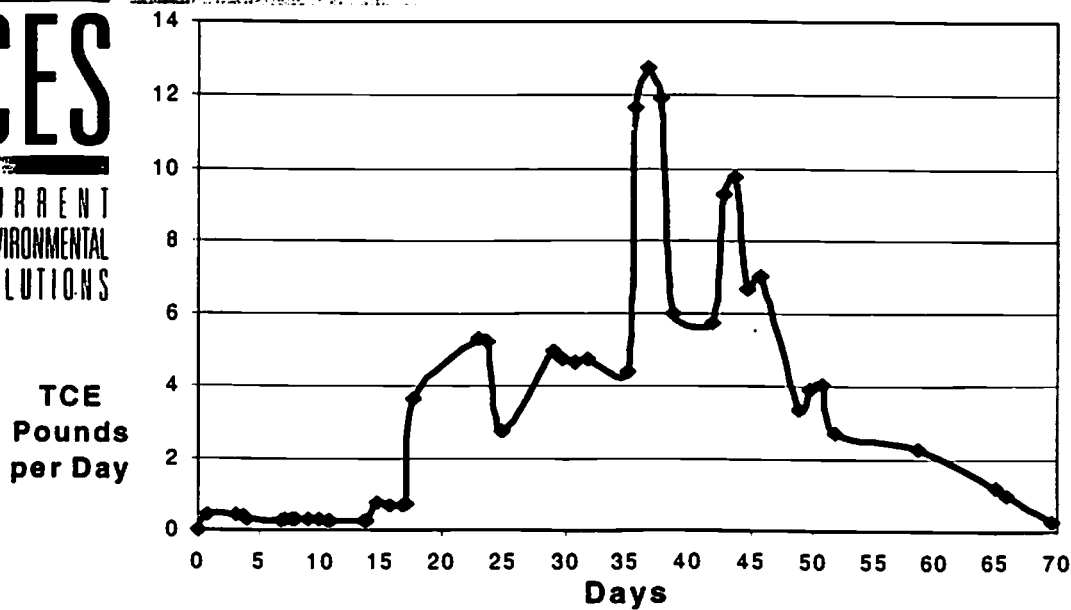
Radian

Average Subsurface Temperature

**URS****CES**CURRENT
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SOLUTIONS

Radian

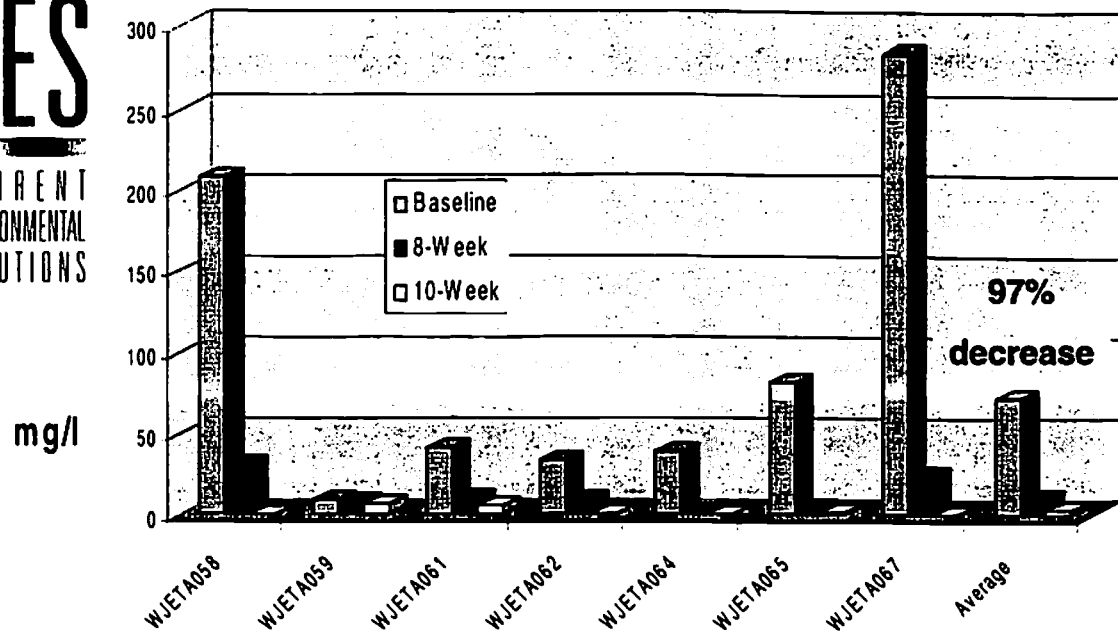
TCE Extraction Rate



URS**CES**CURRENT
ENVIRONMENTAL
SOLUTIONS

Radian

Groundwater TCE Concentrations



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CARSWELL

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RESTORATION ADVISORY BOARD MEETING

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12 Reported by: Suzanne Small, CSR, RMR

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1 MS. PATE: Welcome to our November RAB
2 meeting. I would like to welcome all of you. It looks like
3 a pretty good crowd.

4 My name is J'Nell Pate, and I am the
5 community co-chair. What we generally do in this is the
6 first meeting for some of you is to go around the room and
7 introduce ourselves. And thanks to a terms and
8 abbreviations glossary which Dan Johnson has provided for
9 us, I won't make you say the entire full name of your agency
10 like I have been doing. But like I was telling somebody, I
11 am just now learning what TNRCC stands for, so -- and I am
12 just learning what they stand for. If you haven't picked up
13 the glossary, that will help you to know that. We will let
14 you identify yourself by your initials I guess tonight. So
15 why don't we start over here the lady who is taking our
16 notes and go down each row and then we will start at the
17 front of this one and go down this side.

18 THE REPORTER: I am Suzanne Small with
19 Merit Court Reporters, and I am taking notes and providing a
20 real-time translation.

21 MR. DODYK: I am Mike Dodyk. I am with the
22 Air Force Center for Environmental Excellence. I am the
23 resident engineer here at Carswell.

24 MS. WRIGHTFORD: I am Michelle Wrightford.
25 I am with HydroGeoLogic, a contractor to the Air Force.

3

1 MS. PATE: Second row.

2 JENNIFER WALLACE: Jennifer Wallace with
3 HydroGeoLogic.

4 MR. CAMP: Brian camp, City of Fort Worth
5 Environmental management.

6 MR. SEWELL: Tim Sewell I am with
7 (inaudible) in Arlington.

8 MR. McMILLIN: Steve McMullin. I am the
9 commanding officer here at NAS Fort Worth.

10 MR. LOVE: Craig Love. I am the executive
11 officer.

12 MS. JONES: Sonia Jones U.S. Geological
13 survey.

14 BILL WHITMORE: Bill Whitmore environmental
15 here at the base.

16 MR. MACKEY: Eric Mackey. I am with a
17 Current Environmental Solutions with heating and technology
18 (inaudible).

19 LOU DRAPER: Lou Draper with the Fort Worth
20 Star-Telegram.

21 MR. VANMETER: Pete Vanmeter with U.S.
22 Geological Survey.

23 MR. JIM: Jim (inaudible) with Air Force
24 division agency out of the Arlington, Virginia office.

25 MR. VANN: (Inaudible.)

4

1 MR. BRUCE: Bruce (inaudible), Fort Worth
2 Water Department.

3 ROBERT TAYLOR: I am Robert Taylor with the
4 Fort Worth Water Department.

5 MR. FIELDING: I am Rick Fielding,
6 consultant here.

7 FEMALE SPEAKER: Valerie (inaudible) with
8 HydroGeoLogic.

9 MS. PATE: Okay. The front of this side
10 then, front row.

11 MR. HAWKINS: Okay. I am Mike Hawkins. I
12 am with the Air Force Center for Environmental Excellent.

13 MR. MCGRAW: I am Greg McGraw with IT
14 Corporation, a consultant with the Air Force.

15 MR. JOHNSON: I am Dan Johnson from the
16 Aeronautic (inaudible).

17 MR. HENDERSON: I am Greg Henderson from
18 the City of River Oaks.

19 MR. MADDOX: John Maddox from the
20 community.

21 MR. ROBBINS: Norman Robbins from Lockheed
22 Martin.

23 MR. VASQUEZ: Rafael Vasquez, (inaudible).

24 MR. DOZY: Victor Dozy, IT Corporation for
25 Project Manager for (inaudible).

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1 MS. SHOOTER: Lynn Shooter with Jacobs
2 Engineering, Project Manager for Plant 4 for the Air Force.

3 MR. RICK: Rick (inaudible).

4 MALE SPEAKER: Al (inaudible) with Air
5 Force Base.

6 MALE SPEAKER: Chuck Pringle with the Air
7 Force Center for Environmental Excellence (inaudible).

8 MALE SPEAKER: Wes (inaudible) from A F
9 from Lockheed Martin.

10 FEMALE SPEAKER: (Inaudible) with Universe
11 Technologies.

12 MR. FICKLEN: Don Ficklen with (inaudible)
13 Carswell team sheet.

14 MALE SPEAKER: Ted Grady, the IP. It
15 league for Air Force Plant from Wright Patterson Air Force
16 Base.

17 MR. WALTERS: George Walters (inaudible)
18 Project Manager.

19 MR. HISEY: Ed Hisey from (inaudible).

20 MS. MORGAN: Lynn Morgan from
21 HydroGeoLogic.

22 MS. PATE: All right. You have proved to
23 us once again that all of you people are interested in usage
24 you come from far away. I apologize we don't have more
25 community members. But we appreciate all of the efforts. I

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1 think the next thing we need to do is to approve the minutes
2 from our last meeting which were mailed to us. So do I have
3 a motion to approve?

4 MR. VASQUEZ: Motion.

5 MS. PATE: Okay. A second. All in favor
6 say "aye"?

7 ("Ayes" from the audience.)

8 MS. PATE: As I call upon the people to
9 make their reports tonight, remember that if you speak up
10 from the audience and ask a question, identify yourself so
11 that the note taker can know who to attribute that to. On
12 our agenda, the Westworth Redevelopment authority program
13 update is first, but I don't see Mr. Clemons here. Did
14 anyone else come to do that? He may come in later. So
15 let's go to George Walters Air Force Plant 4 projected
16 update.

17 MALE SPEAKER: Can everybody hear me
18 because I am going to have to use the deal. Do you want me
19 mind here everybody? I need to push the buttons.

20 MR. DODYK: George, if you can't hear me, I
21 will talk louder with my cold, it might not be too bad.
22 George Walters Project Manager for plant 4. Very similar
23 chart to the last briefing I gave back in August, an update
24 on everything. Again, Plant 4 is outlined in yellow.
25 Today, I am going to talk about, again, number one, the

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1 lake. The East Parking Lot where you see my pictures,
2 that's over in this area.

3 Again, 3 is my building 181 with my 6-phase
4 heating project and then the west lot is over here and we
5 talked about it I think back at the May RAB meeting so I
6 will bring you up to date on the project we are doing there.
7 Just another view of the plant so you can get your
8 directions on where we are at. Again, the engine run up
9 stations and the East Parking Lot, I have got a little bit 5
10 million dollar groundwater treatment system I will be
11 talking about and showing you a lot of pictures and again,
12 building 18 one is our chemical processing building right
13 over there in the corner, got a lot of work being done over
14 there. And I will update you on that. And again, you see
15 the lake in the background. I see that we are on the news
16 at 6:00 o'clock they did an early fly by of the sediment
17 sampling I will be talking about, I think you can see that
18 tonight at 10:00 o'clock also, Channel 11.

19 Okay. The update on the fish tissues,
20 follow up is the Lake Worth sediment sampling and get news
21 was that it started today. Pete van meter from the USGS was
22 out there on his pontoon boat and it will be a 2-phase
23 effort because they took what they called lock stem sampling
24 today. There are 3 locations and then they are going to
25 come back in December and take 18 shallower samples around

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1 the lake. And again, this is a follow up to the fish tissue
2 sampling we did last year.

3 Hopefully, you will find out it will cover
4 the contamination that was detected in the fish. We
5 will see how deep it was in the sediment and then if there
6 is anything we can do, hot spot, may make sense to go in and
7 dig it out. If it's all over the lake bottom and hopefully
8 it will have settled and have cleaner sediments on top of
9 it.

10 Hopefully in the future, the fish will
11 hopefully be able to be edible in the future. Since it just
12 happened today and all of my pictures were being taken
13 today, I don't have any other pictures other than what we
14 have here and in my next RAB meeting, I can tell you the
15 boat, they have this great big wait into the sediment, and
16 they take a core and cut it up and as I explained at the
17 last RAB, they used some fairly fancy techniques to dig the
18 sediment but Pete is here. If anybody had any questions, he
19 would be available to answer any questions before I move on
20 and it will be about six months to get the sample results.
21 I think at least months to get the samples and then Pete
22 will have to review you'll of the hundreds of data points he
23 is going to have. But if there is any specific question on
24 any of that, I would like the experts to answer anything
25 that anybody would have a question on. But they did a --

9

1 one of the deep pores was over, you know, in the lagoon?

2 MALE SPEAKER: Yeah. It's --

3 MR. WALTERS: About where my X is?

4 MALE SPEAKER: No. It's down stream from
5 your X in between the two X's there.

6 MR. WALTERS: 1 by the damn and one up?

7 MALE SPEAKER: Uh-hum.

8 MR. WALTERS: Past the bridge? Past the
9 bridge?

10 MALE SPEAKER: To get a feel for what's
11 coming.

12 MR. WALTERS: Pete will be doing several of
13 the other lakes in Fort Worth as part of the City of Fort
14 Worth. Is that correct, Brandon?

15 So further questions? We will move to the east
16 parking lot. Again, here is my system in the East Parking
17 Lot, a lot of extraction going in, we pumped 56 medical
18 gallons of water, upgrading the stem from a small number of
19 wells to 52. I had told you at the last meeting it would be
20 finished in September and pumping water. Unfortunately, we
21 ran out of money and my contractors basically, their option
22 not to work if they don't have any funding so what I thought
23 would take three months to get funding, my financial person
24 did a great job and got me money in 3 weeks and now I am
25 going through the proposal to get the contractor back on

10

1 line but we are about 90 percent completed. All of the work
2 you see here, everything is in. The air stripper to treat
3 the water, all of the other tanks and the extraction wells.
4 The building that we are using to income everything so that
5 all of the equipment stays nice and dry and doesn't rust out
6 prematurely, fancy control systems. What I like here is the
7 computer system. All of the extraction wells have -- I
8 believe all of them have variable speed note towards and the
9 system will pump just the amount of water that it takes. A
10 lot of times what you will have is the on/off type of pumps.
11 Those wear out fairly quick. These will pump at a nice flow
12 rate and hopefully we will get our best bang for the buck on
13 treating the contamination, expect to have the contractor
14 Jacobs Engineering back on contract once week once they get
15 their subcontractors mobilized, they will be back on cite
16 again to make sure the computers and all of the extraction
17 are talking to each other and working properly. Hopefully,
18 we believe in December, we will start pumping water, work
19 out any bugs and then hopefully, at the February meeting, we
20 will have a tour of the facility, having been through it
21 back in September, like I said, I like that kind of stuff.
22 We will see if you like it.

23 Next project is my 6-phase heating project.
24 This is building 18 one down in the corner there I was
25 pointing to. This is where we have historical releases of

11

1 trichloroethylene and we had our spill back in 1991. We had
2 interim actions to remove the TCE and then we put in a
3 full-scale soil vapor extraction. We have a lot of
4 extraction wells pulling the vapor up. That does a good job
5 but one of the things we are trying to do is see if we can
6 get more of the contamination up. Then, again; when I refer
7 to the 6-phase heating. I have got some charts in the last
8 minute. So I have got a few here. And then at the end, I
9 am going to show you some more to explain it. But again, we
10 have a lot of extraction wells, use the highest
11 concentration we would have at the plant, which is why we
12 are spending most of our money at this cite to get the
13 contamination out.

14 Again, our 6 phase heating, this is the
15 vapor recovery, we heat the ground up, heat the soil, heat
16 the vapors, create some steam, extract with our vapor, and
17 then cool about back down, so we can treat the TCE.

18 It's probably hard for you to see, but this
19 shows you we think it's working pretty good. We started out
20 here with some high concentrations and after three weeks
21 went down to here and you find that with all of your
22 treatment systems, initially you do get some draw down in
23 your concentrations then what will happen is it will level
24 off and that's the point where you spend all your money
25 trying to get it to come down further and that's hard to do

12

1 with all the treatment systems. You reach the plateau. So
2 we view that for 10 weeks, looks pretty good. I think the
3 contractor who is available for any technical questions you
4 might have, we want to run it a few more weeks.

5 Let's see here. This is a pilot system.
6 And you can't see those; but again, that just reflects the
7 graph, the fact that the concentrations went down from
8 200,000 to 298. Our goal in the groundwater was to get all
9 of the concentrations down below 10,000.

10 In the soil, there is another number we
11 would hope to get the soil concentrations down to and then
12 actually, we could probably continue to run the system and
13 make sure they stayed where they are at down here, but that
14 would be a success story.

15 It's a pilot system, though. I have got to
16 see the data, see if there is what we call rebound, see if
17 the concentrations would go back up. Because you clean up
18 that one 50 foot cell, if anything would migrate back in but
19 I have a project in for next year's budget to do a much
20 larger area. At one time, I think thing thought there was 6
21 acres now down to 1 acre, a 50 foot small system to make
22 sure it works and I have got some more pictures at the ends
23 that will I will show just to bring you up to speed.

24 Flipping to my last project will be the
25 west lot edge. I showed you some samples of the flu I did

13

1 we pulled out of the West parking lot back up at the May RAB
2 meeting. Again, this was a no further action cite when we
3 were sticking wells in for monitoring, we found
4 contamination in the wall net so we have had several
5 projects to expand the scope to find out exactly how much
6 further the contamination was. It was in the bedrock. We
7 had removed the top layer all the way down 30 feet but
8 again, if you have a crack in the bedrock, this stuff is
9 heavier than water and will seek down to the bottom at the
10 top of the bedrock and if it finds a crack, it will go down
11 deeper.

12 The good news is we have a lot of
13 monitoring wells. We have a number of monitoring wells
14 deeper. We have been sampling that area quite a few years,
15 so we don't see those concentrations down there. What some
16 of these people from Texas, the EPA and Air Force are going
17 to have to decide is what the next step should be. This
18 stuff is -- the middle here is fractured. The bottom of the
19 Walnut Unit which is really hard rock so it's not leaking
20 straight through. What I don't want to do is stick a bunch
21 of wells in and poke holes where I could have some leakage.
22 So even though you try to cement those in, you can still
23 cause a pathway.

24 And there is other things you can do. If I
25 pump, you know, we hear about some of my one well has a lot

14

1 of -- this chemical in it, what happens technically speaking
2 if I -- makes sense to me just to extract it out, stick a
3 pump down there and pull it all out but what you can do is
4 make the stuff over here migrate and I don't want to do
5 that.

6 So again, the Air Force and EPA and Texas
7 will have to decide here in the future tour what further
8 actions we could do. One of them may be just monitoring. I
9 have enough wells deeper. Actually, I even have extraction
10 wells deeper, but I don't want to -- and that's lower --
11 that's really low concentration. Do I want to pull higher
12 concentrated stuff down? I don't want to do that. So
13 again, we have some -- we got the report coming out here in
14 another month. We had a meeting last week in Austin to
15 reduce some of the data and comments and then I have a
16 project in for next year for further characterization which
17 will be more wells to see exactly how far it is to the east
18 and we may do some to the west but we have to see what we
19 have to do there.

20 Again, this is the work that was done.
21 Rick Wise is over there. He is answer any questions anybody
22 has but we used some air rotary techniques and the nice
23 thing is I already have a treatment system on the edge of
24 the landfill, No. 3, which if any of that chemical would
25 seep out through the fractures, I already have a treatment

15

1 system thereto collect did.

2 Let's see here. That was probably it.

3 Okay. And just because my contractor was nice enough to give
4 me some more pictures from his 6 phase heating project, I
5 will just give you some more on that. Again, this is kind
6 of exciting stuff because five years ago when you first heard
7 of it, said, gosh that makes sense.

8 I would like to see them do it at my sight
9 and five years later, I get to see it in action. Again,
10 this is inside building 181. Over in this corner is where I
11 had the spell. This is the waive of the electrodes and the
12 extraction wells. I think I used the term hair driver at
13 the last meeting. I think I would use a coffee pot better.
14 You are again using electrical current to heat the soil.
15 What's the good about electrical current is you have layers
16 of clay and you have lenses. If I were to inject a chemical
17 down there to destroy this other chemical, I can't get it
18 inside if the tight permanent able -- high permanent I can't
19 believe. The tight stuff. Electrical permeable can go
20 right through it and heat it up. That's one of the
21 advantages to this technology, but there are other
22 technologies out there that you can inject chemicals. What
23 I have got to do is balance the cost. Which one is going to
24 save the taxpayers the most money but get the TCE out?

25 And the same picture of the electrical air

16

1 aa and the extraction wells. And we gave a tour of building
2 181, my treatment system a year ago, August. If anybody is
3 of interest, we can go back and see that same system again
4 and as I have already told you, any time you need a tour and
5 we are not available, just give me a call. Next time I am
6 on cite, I can get you in and show you our treatment
7 systems.

8 A little bit better view of exactly what we
9 are doing here. We have the TCE here which again is heavier
10 than water so it will sync, hit the bedrock or whatever is
11 going to keep it from flowing any further to the ground.
12 Eric does that do anything? Is it --

13 MALE SPEAKER: I am not sure what's going
14 on. There shall be al couple of electrodes.

15 MR. WALTERS: Refer to your diagram as flow
16 loading up, but --

17 MALE SPEAKER: There they go.

18 MALE SPEAKER: Instant well.

19 MR. WALTERS: I wish it was that easy. I
20 think that's it. So the good thing is, heat it on the side,
21 extract it from the middle, and again, hopefully, we can get
22 all of this TCE out of here a lot faster than just by vacuum
23 alone. Again, the soil vapor treatment system, I already
24 have in place. Again, what can we do to speed it up? There
25 was more. There we go. I like that. I showed you a video

17

1 a couple of RABs ago of the cape van after recall treatment
2 technologies. This is similar. This is a version. There
3 is another method where they use steam, I think you remember
4 that video of the steam injection. This is a little
5 different technique on thermally enhancing the TCE removal,
6 how long it took the groundwater, ground itself and then the
7 groundwater to heat up to these points. TCE again boils at
8 roughly 73.

9 And then water at 100 degrees celsius.
10 Showed you again and once again with the heat of the summer,
11 we had to turn the electricity off several times so
12 unfortunately, we had some of the temperature go back down
13 and had to heat it back up once they allowed to continue the
14 electricity on the site.

15 A lot of time when you, again, when you
16 first heat something up, you get your biggest bang for your
17 buck, greatest extraction rate and then of course it will
18 level off. That's what we see here at 35 days. Some of
19 these may be where we had a cut off in the electricity. I
20 think there was a 6 day shut down due to everybody here in
21 Texas or Fort Worth will to cut back. I believe this is my
22 final slide. So far in this small area, we have had a 97
23 percent decrease in the concentration. I will tell you that
24 the project costs roughly 800,000 dollars. I have to expand
25 that up to a bigger system and, again, see if it makes sense

18

1 to use this technology or maybe there is other cheaper
2 technologies out there.

3 Again, once the East Parking Lot system comes on
4 line here in another month, I think we have all of the
5 groundwater protected, anything that's going to go deeper,
6 we have it protected with the extraction wells. My job
7 would be what can I do to speed it up? Because again, just
8 on pumping alone and soil vapor extraction alone, we are
9 looking at quite a few years, 50 years, my estimate on how
10 long we will be pumping. Are there any other questions?

11 Very good.

12 MS. PATE: Okay. Rafael Vasquez, Carswell
13 base.

14 MR. VASQUEZ: I would like to start with an
15 announcement. Our office, Environmental Program, is going
16 to be switching. It is going to be turning over to the Air
17 Force Center for Environmental Excellence by the end of this
18 month is when the transfer will occur. Mr. Is Charles
19 Pringle, if he could stand up, he will be the next BRAC
20 environmental coordinator for the BRAC coordinator. By the
21 end of this month, he will be officially transferred, the
22 program to him. And he actually will send letters to all of
23 the RAB members to notify everybody else, all regulatory
24 agencies that we are going to transfer the program. So this
25 is kind of my last hooray, my last briefing. I am just

19

1 going to quickly give a quick update on the program status.
2 Talk about the close your reports of some units we are
3 doing, weapons Storage Area, Sanitary Sewer investigations
4 and the landfills.

5 We have closed some units on the base.
6 There are 2 still open. One is the Aerospace museum which
7 is located in the east side of the -- west side of the
8 runway. And we -- the only thing we have left to do, we
9 have the cleanup and investigation. Metes and bounds
10 completed, we do the report. That was a compilation. We
11 submitted a report to the regulators in October.

12 The ground maintenance yard which is by the
13 main gate -- I will get my bearings here. We have been also
14 doing additional sampling investigations and we are going to
15 be close. We just finished a sampling, so we are analyzing
16 the data and we think we will be able to close it out with
17 the investigations we have done. There is no remediation we
18 need to do on that site.

19 On the weapons Storage Area, there is no
20 change from the last RAB. We have completed all of our
21 work, all of the removals, we are done and these weapons
22 storage areas are located about five miles west of the base.
23 And that's an area we are going to be transferring in the
24 near future once we get closer on the site. The the areas
25 in August, we are awaiting their comments and review.

20

1 Now, Sanitary Sewer, we have been
2 investigating the Sanitary Sewer for a long time. We had a
3 Phase I where we found some debt texts in the soil, in the
4 groundwater that we were -- we had to investigate further.
5 We have completed that sampling in the Phase II. However,
6 when we were doing the sampling, we found -- we got at video
7 survey of the sewer lines and they found additional cracks
8 or breaks in the line.

9 So we are -- we have obtained additional
10 funding and we are right now on base doing the sampling of
11 those breaks to make sure there is no releases when that
12 occasion. Once we finish the Phase III investigations, then
13 we will analyze the data and whether we have to go to Phase
14 IV or if we hope not and hopefully by December, we will have
15 a report to close that unit.

16 We are not going to repair the sewer line,
17 sir. We just basically investigating releases,
18 environmental releases.

19 And that's through the whole base, NAS Fort
20 Worth and the BRAC area.

21 Landfill, which is the last big unit we had
22 on the permit on base that we were doing the cleanup. These
23 are 4 landfills located in the -- next to the Goff course.
24 One in the Goff course area and three just above the fence
25 in the NAS Fort Worth by the runway. We did extensive

21

1 investigations and clean up in those sites and in the last
2 RAB, I briefed all of the clean up we did. I am just going
3 to briefly go over them but we have submitted a draft,
4 record facility investigation report which basically --
5 closure report.

6 We basically summarized all of the work we
7 have done in there and we are saying that it's safe to be
8 closed and to be close that unit with some restrictions. We
9 submitted a report in September. Before that, we conducted
10 a corrective measure implementation where I will briefly go
11 into what we did on each side.

12 We completed also the work, the field work
13 in September.

14 Landfill 4 which is on the Goff course
15 side, we removed some contaminated soil that had metals on
16 it. And we did a soil cap, basically put 18 inches of clay
17 and 16 inches of top soil and grass on top of that landfill
18 because we had medical waste, and it wasn't an environmental
19 issue. It was a health issue. So we put the clay cap on
20 top of it. That is complete. And if you go that way, you
21 will see that the grass is starting to grow with this last
22 rain.

23 Landfill 5 which is in here inside the
24 fence, there was also medical waste and was some hot spots
25 that we need to remove. We removed the hot spots and

22

1 conducted also a clay and top soil cap with grass on it.

2 That's complete.

3 Landfill18 is the biggest one in here by the
4 aquaduct. There was some hot spots. We removed about 600
5 cubic yards of soil that was contaminated.

6 The last were the 4 sites we were working
7 was Waste Pile . That was the one that I went in detail
8 last time about we found some additional drums that
9 contained some volatile organic compounds and some other
10 material on it. We finished the excavation of those drums.
11 We did a survey of the whole area. We took samples after we
12 removed the con familiar natured soil and we back filled.
13 So we done with it, with the fill work. That Finn finish in
14 September. During the last meeting, somebody asked the
15 question, where did we dispose of the soil? It's called
16 non-hassles contaminated soils, basically metals, the soil
17 that had the metals on it, it's considered non-hazardous so
18 we took it to the west side landfill just up the street, and
19 the hazardous soils in the drums that were considered hazard
20 less waste, then we had it transported to the chem Waste
21 Management facility in Louisiana with the proper disposal.

22 That basically completes the Carswell-cite
23 work on major sites. The only thing that's still pending is
24 the Sanitary Sewer line. Once we finish that which should
25 be done with the environmental and long term monitoring.

23

1 Any questions on the environmental program
2 status? I have got to go quickly on the property transfer
3 update. We completed the Federal Bureau of prison hospital
4 transfer to the Federal Bureau of prison. We also completed
5 a transfer of the Kings Branch housing area. That's the one
6 over 183 and White Settlement. It's actually hereby the
7 Goff course. We completed that to the west Fort Worth re--
8 Westworth redevelopment authority in October. There is
9 actually 3 locations left. One, there is a horse stable
10 area which includes this area out here. That the hopefully
11 will happen by January, 2001. There is also the weapons
12 Storage Area that will probably happen by April, 2001, once
13 we finish the closure, the review for the regulators and
14 close out that unit. There is one more area that's mostly
15 the golf course area. And some of the warehousing, we
16 haven't transferred yet but we have to wait until we address
17 the groundwater issue in conjunction with Air Force Plant 4
18 and then we will transfer it probably two years down the
19 road. And that's basically it. Any other questions?

20 MS. PATE: Okay. Thank you. And Mike
21 Dodyk, Carswell on-base.

22 MR. DODYK: I will speak from here. Okay.
23 As she said, I am Mike Dodyk, I am the F C team chief here
24 at Carswell. I want to start off with a little history of
25 the installation restoration program. Carswell was

24

1 officially closed on September 30th, 1993. At that time, a
2 large portion of the Carswell was transferred to the Navy
3 and renamed, NAS Fort Worth JRB. Naval Air Station, Joint
4 Reserve Base. Prior to the complete property transfer of
5 the base, required environmental investigations of
6 potentially con familiar stated sites related to Air Force
7 activities prior to its close your, or the close your of the
8 base are to be completed and any contaminated sites
9 remediated.

10 The Air Force has assigned the AFCEE both
11 management and implementation responsibility for completing
12 the IRP at NAS Fort Worth.

13 Okay. A little cite overview. The former
14 Carswell Air Force Base was issued a RCRA permanent,
15 resource Conservation require rig act. This permit was
16 issued on February, 19991. This permit required a RCRA
17 investigation of all of the solid Waste Management units. A
18 F C is currently investigating 506 sites. 43 SMU's and also
19 13 AOCs, AOCs being areas of concerns at NAS Fort Worth JRB.
20 These sites have already officially been closed out by the
21 Texas national resource Conservation commission.

22 All of the other sites are at various
23 stages of investigation or corrective action. That's a
24 clean up, what when he call. The remaining 52 sites, AOCs,
25 including six landfills, 16 waste aclate areas, 3 fire

25

1 training areas, 15 oil/water separators, 3 fueling stations,
2 a POL tank farm and various other locations.

3 The update on the landfill, we have done
4 our Phase III field work completed in June at Landfills 1,
5 2, 3, 6, 7 and 9.

6 Even after that, we found out we have to do
7 additional field work and we are going to do that in
8 December. Now, our landfill RFI reports are going to be
9 submitted by our consultants to us next year preponderance
10 of the evidencing successful completion of these delineation
11 activities.

12 This map here shows the location of these
13 landfills on base.

14 Okay. The waste accumulation areas, as I
15 said, we had 16 of these waste accumulation areas. Based
16 upon previous investigations, an RFI report recommending no
17 further action at 7 of these areas was submitted to TNRCC in
18 July.

19 A Phase II soil and an initial groundwater
20 sampling for 9 of the remaining waste accumulation areas was
21 completed in June. And our second round of groundwater
22 sampling was completed last month.

23 Based on these sampling results, 4 more
24 waste accumulation areas are submitted for closure and the
25 five remaining sites require additional field work and that

1 will be conducted next year.

2 And here is the map showing our locations.

3 Okay. The -- we have some other special
4 areas, SWMUs, 19, 20, 201 and 503 and AOC 19.

5 Now, the additional field investigations
6 were completed in June at these size. SWMUs 19, 20 and 21,
7 there were various components after former fire training
8 area, area 2 on base. SWMU 51 is the storm water drainage
9 system on base. AOC 19 was a suspected former fire training
10 area.

11 Now, our field investigation results
12 indicate additional sampling is necessary at each of these
13 sites and will be beginning this investigation this month.

14 We also have AOCs 17, 18. These were
15 suspected sites. The initial fields investigations were
16 completed in June at these sites. This was a suspected
17 former landfill and another what we suspect was a fire
18 training area.

19 Now, the field work activities included a
20 geophysical survey and soil sampling. Our fuel
21 investigation release therefore, our report will recommend
22 close your to the TNRCC this month.

23 Okay. We also have underground storage
24 tank investigations, and the final investigation of the
25 summary for 5 of the USTs was submitted to TNRCC in March.

27

1 These are all terminology things. A final release
2 determination report for the UST at building 1427 was
3 submitted to TNRCC in July. A Plan A site assessment was
4 proposed as the next appropriate action.

5 Additional oil and groundwater sampling was
6 completed at six of our underground storage tanks in May. A
7 no further action request for these sites will be submitted
8 to the Texas by December.

9 Okay. Additional underground storage tanks
10 investigations, the former gas station, groundwater sampling
11 of the newly installed off-base wells and existing wells
12 continue.

13 SWMU 68, POL -- POL, that's military
14 terminology for petroleum, oil and lubricants. The POL tank
15 farm at AOC 7, a former base refueling area, for that work,
16 we did a final site assessment report submitted to TNRCC in
17 August. A semi-annual groundwater sampling, we did that
18 last month. Weekly product recovery continues as necessary.
19 At these sites.

20 AOC 4, the former fuel hydrant system over
21 on the base parking area where a semi-annual groundwater
22 sampling continued last month. Again, weekly product
23 removal continues as necessary.

24 Okay. The corrective measures is AOC 13,
25 building 1145 oil/water separate or this is the base auto

28

1 hobby shop. As I reported last time, we had removed the
2 leaking oil/water separator. The final work was completed
3 in June.

4 However, when we re-excavated the
5 contaminated societies and did confirmation sampling we
6 found we needed some more sampling, so we evaluated the
7 results and determined where the sampling had to be done and
8 for next month, we are going to do these samples. Okay. And
9 that's the base auto hobby shop. Okay.

10 Now, the oil/water separators, on base, we
11 have these oil/water separators. IT Corporation has
12 completed their second phase of the fuel investigation at 11
13 of the separators located throughout the base. That
14 includes soil and groundwater investigation around these
15 facilities. Based on the results of the Phase II work,
16 approximately five of the oil/water separators will be
17 recommended foreclosure. The remaining 6 sites will undergo
18 a third round of investigations this month.

19 Okay. Our groundwater sampling and
20 analysis program, we prepared a draft July 2000, a quarterly
21 report, we received that from our court for, it was
22 submitted to us last month. This report presents the plume
23 characteristics and trends from the data collected in the
24 July sampling event.

25 Now, again, the next quarterly groundwater

29

1 sampling was conducted last month, 33 wells were sampled.
2 Also, our consultant prepared a monitoring well aa band
3 hadn't. And repair report and submitted it to us. 19 of the
4 monitoring wells on base were either abandoned or repaired
5 in June or July of this year.

6 Okay, paleochannel, that's another word for
7 an underground stream. One of our consultants, SAIC, has
8 completed Phase I of the cite inspections to delineate the
9 gravel channels and what we call the Walnut Goodland bedrock
10 confining layer using geophysical survey techniques
11 including seismic reflection and electronic imaging kind of
12 ground like radar, you might see on the map there, the
13 migration of the TCE goes across the runway and appears to
14 be in a narrow pathway and we think there is an underground
15 channel there, and we want to determine the extent of it
16 based on this result of the Phase I, to install 6 soil
17 borings, 5 of which will become monitoring wells to confirm
18 the channelling characteristics an the prepare residential
19 groundwater movement to tract more precisely where it's
20 moving. An that's the extent of the work the last three
21 months here.

22 Any questions? Okay. Back to you?

23 MS. PATE: Okay. Thank you. Dan Johnson,
24 the charter discussion for our RAB.

25 MR. JOHNSON: I guess this is more toward

30

1 our RAB members? How many have we got in the.

2 MS. PATE: I think there is one more.

3 MR. JOHNSON: Okay. Nobody ever got back
4 to me with any changes on this. But there were a couple of
5 things we thought we might want to look at. I think we have
6 kind of gotten away on how we are doing things on the
7 charter. If you look on the third page, at item D, we talk
8 about members shall serve as a term of three years. I don't
9 know. Are we actually doing that that way? Are we placing
10 a limit on how long people can be on here? Greg?

11 MS. PATE: We better not to the that or we
12 won't have any.

13 MR. JOHNSON: That's what I am afraid of,
14 for our own survival perhaps we should take that out.

15 MS. PATE: I was wondering when the
16 chairmanship is going to be re-elected.

17 MS. PATE: Down to Item 5 A, co-chair for
18 a year. And I know you have been a co-chair for a lot
19 longer than that.

20 MS. PATE: Mike was for a long time. Has
21 it been 2?

22 MR. JOHNSON: In the conference room so do
23 we want to take that out, redo it? Do we want to reelect a
24 co-chair? How do we want to handle that? I will redo this
25 thing. You guys want to think about that a few minutes,

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1 talk about it after the meeting, have a chat on it? Will
2 that work?

3 MS. PATE: We need to get more members.

4 MR. JOHNSON: We are going to talk to you
5 about that, too. Mike and I have talked about that. We are
6 going to try a membership drive real soon. Was that the
7 only item we had? On the fourth page, too, we talked about
8 the RAB co-chair coordinating a second at each meeting. I
9 know we haven't been doing that.

10 MS. PATE: You have been doing a great
11 job.

12 MR. JOHNSON: We can take that out if you
13 want unless you want us to pass that by you before we send
14 the agenda out. Then on down it talks about the agenda
15 items and the next to be decided at the conclusion of the
16 meeting, we certainly don't do that. These are things we
17 discuss about a month before the next meeting, set the
18 agenda then.

19 MS. PATE: Should we ask for suggestions
20 from group at each meeting or something which would help you
21 with an agenda for the next one?

22 MR. JOHNSON: I am sure we could do that.
23 But we set that about a month ahead of time. The charter
24 says decide that in the meetings. We are not really doing
25 it that way. I don't know if that's the way it should be.

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1 I am trying to get this stuff aa lined a little bit better.

2 I think we should.

3 MR. VASQUEZ: I might reask for the next
4 meeting agenda items. That's what's next in here. We
5 always ask for anything, anybody that wants to hear next
6 time.

7 MR. JOHNSON: That's true.

8 MR. VASQUEZ: I think that's covered my
9 that way. That's my opinion.

10 MR. JOHNSON: Okay. Do you want to just
11 discuss did a little bit later then? Do you guys want to
12 look at that a bit?

13 MALE SPEAKER: The decision doesn't have to
14 be made tonight. It's to bring it to your attention.

15 MR. JOHNSON: I will go ahead and then make
16 some changes on this stuff. I think we will look at it and
17 vote on it at the end of the next time. We do have the
18 information repository on CDs now and they are at the White
19 Settlement Library everything is on CD's, quick and easy to
20 find everything. Okay? And like George mentioned, we are
21 going to try to have a tour. We were supposed to have it
22 tonight. We will try to have that in at the February RAB
23 meeting. Okay? That's all I have got.

24 MS. PATE: Okay. Well, this has really
25 gone rather rapidly from supposed to be -- if we are

33

1 supposed to meet from 6:00 to 8:00 we have really gone
2 through it. Any other question or any other comment or
3 maybe we should start tonight by saying, does anyone have a
4 suggestion of what to have on the agenda three months hence?
5 Anyone have a suggestion or anything? I think they are
6 happy with your agenda, Dan.

7 Don't we always set the date for the next
8 meeting? So does someone have a calendar? The.

9 MR. JOHNSON: The 8th of February.

10 MS. PATE: February 8th, the second
11 Thursday. Anyone else have anything else to do? I mean do
12 we say we are adjourned? It's been a quick meeting.
13 Goodness. Thank you for coming.

14 (Meeting in recess at 6:49 p.m.)

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